

**THE EFFECTS OF LIFE ORIENTATION PROGRAMME ON HIV/AIDS  
KNOWLEDGE, ATTITUDES AND BEHAVIOURS AMONGST COLLEGE  
STUDENTS IN RANDBURG.**

by

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## DECLARATION

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I declare that the study on the **EFFECTS OF LIFE ORIENTATION PROGRAMME ON HIV/ AIDS KNOWLEDGE, ATTITUDES AND BEHAVIOURS AMONGST COLLEGE STUDENTS IN RANDBURG** is my own work, and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

.....

SIGNATURE

Netsai Muchapondwa

.....

DATE

## **DEDICATION**

Kevin, Kiandra, and Natallie Dodo-Tabaziva. To my family: my brothers and sisters. In memory of my late mother, brother and sisters.

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Ebenezer. In Shona we say, *Mwari vatisvitsa pano*, meaning God has taken us this far.

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## **ABSTRACT**

People dying of HIV/AIDS and the delay in finding a cure has put education programmes at the centre of HIV/AIDS management. The study purpose is to investigate the effects of Life Orientation programme on HIV/AIDS prevention knowledge, attitudes and behaviours amongst college students at a TVET College in Randburg. A quantitative descriptive cross-sectional design was used, and a questionnaire was administered to level 1 students (n=141). Data was collected, and analysed using SPSS version 25. The findings showed a relationship between Life Orientation (LO) and knowledge, attitudes and behaviour of students towards HIV/AIDS. Students with high Life Orientation perception reported adequate knowledge and positive attitudes. Many respondents revealed high levels of HIV/AIDS knowledge, healthy behaviour and positive attitude towards HIV/AIDS, showing that Life Orientation had aided in those areas. However, some students had poor perceptions of HIV/AIDS knowledge, henceforth lacked the confidence to protect themselves. Several recommendations to health promoters, education policymakers and the community were given.

**Key Concepts:** Life Orientation; HIV; AIDS prevention; knowledge; attitudes; TVET; risky behaviour

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## **LIST OF ACRONYMS**

AIDS	Acquired Immune Deficiency Syndrome
ANC	African National Congress
ANOVA	Analysis of variance
ARRM	Aids Risk Reduction Model
AVERT	Averting HIV and AIDS
CAPS	Curriculum and assessment policy statement
CDC	Centre for Disease Control and Prevention
DBE	Department of Basic Education
DoE	Department of Education
DoH	Department of Health
ECDC	European Centre for Disease Prevention and Control
GDE	Government Department of Education
HIV	Human Immunodeficiency Virus
HSRC	Human Sciences Research Council
NDoH	National Department of Health
NGOs	Non-Governmental Organizations
PLWHA	People living with HIV/AIDS
REPOA	Research in Poverty Alleviation
SANAC	South African National Aids Council
SPSS	Statistical Package for Social Sciences
SSA	Sub-Saharan Africa
STATSA	Statistics South Africa
STI	Sexually Transmitted Infection

TVET	Technical Vocational Education Training
UN	United Nations
UNAIDS	United Nations Programme on HIV/AIDS
UNESCO	United Nations Educational Scientific and Cultural Organisation
UNFPA	United Nations Population Fund
UNICEF	United Nations International Children's Emergency Fund
UNISA	University of South Africa
VCT	Voluntary counselling and testing
WHO	World Health Organization

## **CHAPTER 1**

### **ORIENTATION TO THE STUDY**

#### **1.1 INTRODUCTION**

South Africa has the heaviest burden of people infected with HIV/AIDS in Sub-Saharan Africa (United Nations Programme on HIV/AIDS 2017:8). Certainly, HIV/AIDS is a worrisome problem imposing a threat on recent South African successes. Modification of sexual behaviour is the utmost solution for the prevention of HIV/AIDS (Jewkes, Dunkle, Nduna & Shai 2010:15).

South Africa has a huge number of youth who are HIV/AIDS positive, which calls for the implementation of effective preventative strategies (Harrison, Newell, Imrie & Hoddinott 2010:43). There is need to introduce comprehensive sexuality education to address risky behaviours. According to Gable, Gostin and Hodge (2008:14), over the years, local and international efforts of HIV/AIDS prevention have not considerably eradicated vulnerability of infection amongst the youth.

The department of education has a big part to play in the prevention of HIV/AIDS amongst the youth. School dropouts, particularly, girls are more at danger of the infection. To that effect, the education campaign has predicted that 7million of HIV/AIDS incidents can be prevented by a realisation of education for everybody. Schools have a major part to play in every child's early childhood development, progress and greater life achievements (A Very Early Rehabilitation Trial 2017:16).

#### **1.2 BACKGROUND**

The bearing effects of HIV/AIDS is evident all around the world. It is stipulated that globally, HIV /AIDS-related cases are 35.4 million since the beginning of the epidemic. Additionally, around 36.9 million people around the world were infected with HIV/AIDS in 2017 and 21.7million were taking treatment (World Health Organisation 2018:23). Furthermore, 940 000 deaths were caused by HIV/AIDS complications (UNIADS 2018:1). Of great concern is the estimation that 1.8 million youth are positive worldwide (United Nations Children's Fund 2017:17).

The Centre for Disease Control and Prevention (2016:1) revealed that in the United States, out of 39 782 new diagnoses, 8451 were between the ages of 13 and 24. According to UNIADS (2018:1), SSA carries over 70% of the global infection burden. Africa has a total of 25.7 million with HIV (WHO 2017:1). The assertion is that more robust interventions are required to tackle HIV/AIDS infections amongst young people.

According to StatsSA (2018:7), HIV/AIDS infections escalated from 4.25 million in 2002 to 7.52 million in 2018. Also, approximately 5.5% of youth in South Africa around the age 15–24 years are HIV positive (StatsSA 2018:7). Regions most affected by the epidemic are Eastern Africa and Southern Africa, at 45% of worldwide infections (UNAIDS 2018:20). About 5000 adults and children are infected with HIV daily, of which 33% are within the 15 -24 years age range (UNAIDS 2018:19). Surprisingly, StatsSA highlighted that HIV /AIDS infections among young people have dropped from 6.7% in 2002 to 5.5% in 2018. Considering that the majority of youth are still infected, more evidence should be gathered to clarify concerns regarding HIV/AIDS in this category. Bearing in mind that the youth are still carrying the highest percentage of HIV, robust effective strategies are needed.

Youth also suffer indirectly from the HIV/AIDS epidemic. According to UNIADS (2017:2), globally, HIV/AIDS infection is mostly amongst the category 15 to 24, with females being excessively affected. Additionally, in SSA, young females are in extra danger as compared to their male counterparts (UNAIDS 2018:18). Many young women are married to older men, who may have had several sex companions and or infected with HIV/AIDS (WHO 2014:5).

Several contributory factors have been attributed to HIV/AIDS infections amongst the youth. Amongst others, lack of education, substance abuse, violence and rape play a major part to the increase of HIV (Avert 2017:7). Consistently, Mwale and Muula (2017: 26) pointed out the preference for dry sex and orphanhood as notable influences of increasing HIV infection rates in South Africa. Some of these factors emanate from risky lifestyles promoted in taverns and shabeens, particularly prostitution (Mwale & Muula 2017:34). Besides, dangerous practices such as non-condom use lead to an exchange of body fluids between young sexual partners.

Poverty is also related to early sexual exposure which promotes the spread of HIV/AIDS in the world (United Nations International Children's Emergency Fund 2017: 47-49). In South Africa, the study conducted by Christofides, Jewkes, Dunkle, Nduna, Shai, and Sterk (2014:4) also supports that notion that teenage pregnancy predisposes young women to HIV /AIDS.

Global initiatives have been developed to circumvent the pandemic. The target for 90-90-90 strategy was that by the year 2020, ninety percent of people living with HIV will have knowledge of their position in terms of HIV/AIDS, 90 % of all positive people will collect antiretroviral drugs, and 90% of people receiving antiretroviral drugs should have viral clampdown (UNAIDS 2017:12). The United Nations Political Declaration on ending AIDS (UNPDEAIDS) was instituted specifically to reduce HIV infections among young females to less than 100 000 by 2020 (UNAIDS 2016:6). In this regard, UNPDEAIDS member states signed an agreement to generate alertness regarding the stoppage of HIV /AIDS through media and education (UNAIDS 2016:20). It shows that HIV amongst the youth has been a global concern.

The youth in South Africa are most probable to get HIV/AIDS infection attributable to social, economic as well as political factors (Visser 2012:65). The government had to develop some strategies to empower the youth. To that effect, there was a collaboration between the South African National Department of Health and the Department of Education to develop a Life Orientation programme and HIV/AIDS illustrative learning programme. The Life Orientation programme was introduced in 1995 to react to the HIV/AIDS rampant around South Africa by the development and implementation of curriculum around schools that teach life skills (Thaver 2012:37). The main aim of developing the Life Orientation programme was to empower adolescents with information, life skills and positive attitude around the subject of HIV/AIDS (Department of Education 2002:4). The Life Orientation programme was formulated to empower learners with life choices, knowledge and skills to define their attitudes and values (Wood 2013:28). It is of great importance to inspect the impact of Life Orientation on the scholars' self-determination as far as HIV /AIDS is concerned.

### **1.3 PROBLEM STATEMENT**

While a lot of HIV/AIDS prevention programmes were initiated, very few were directly linked to the youth. The Life Orientation subject was introduced in South African



schools from grade 10 to 12 in the year 1995 to directly cater for the youth. According to the South African Department of Education (2003:11), the focus area of Life Orientation is to equip the learners with skills pertaining to self-determination, awareness and competency in life skills. The Life Orientation content includes empowering the learners with skills regarding drug and alcohol abuse, teenage pregnancy, STIs and HIV/AIDS (Visser 2012:32). However, anecdotal evidence suggests that South African youth are still likely to be infected with HIV/AIDS. Although the youth are taken through the HIV/AIDS programme as part of Life Orientation subject introduced in schools, it is not clear if the programme has produced any change in youth behaviour, attitude and knowledge around HIV/AIDS prevention.

The researcher observed that despite the facilitation of Life Orientation in schools, the youth are indulging in risk behaviours such as having sex early, non-condom use, dating several partners, of which some are much older than them. It is imperative to investigate the effects of Life Orientation programme on HIV/AIDS prevention amongst youth at a college in Randburg. Wood (2013:33) as quoted by Ncube (2014:10) emphasised the importance of education on the reduction of HIV/AIDS. The assertion is that the prevention of HIV/AIDS should start with children to break the cycle of infection. In support, Bosede (2011:61) views starting with children as the only opportunity into a future without HIV/AIDS. Despite the facilitation of Life Orientation, the effects of HIV/AIDS knowledge, attitudes and behaviours amongst college students are not understood. It was therefore imperative to investigate the effects of Life Orientation programme on HIV/AIDS amongst college students.

## **1.4 RESEARCH PURPOSE**

The purpose of this research is to investigate the effects of Life Orientation programme on HIV/AIDS knowledge, attitudes and behaviours amongst college students in Randburg.

### **1.4.1 Research objectives**

**The specific objectives of the study were to:**

- determine HIV/AIDS knowledge amongst college students in Randburg
- determine HIV/AIDS attitudes among college students in Randburg

- investigate sexual behaviours with regards to HIV/AIDS among college students in Randburg
- determine the relationship between Life Orientation programme and HIV/AIDS knowledge, attitudes and behaviours amongst college students in Randburg.

#### **1.4.2 Research questions**

Babbie (2010:63) describes research questions as tools that enable an investigator to identify the study essence and clarity on what needs to be done. The current study, thus, pursues to answer the following:

- To what extent are the college students knowledgeable with regard to HIV/AIDS?
- What is the attitude of college students towards the prevention of HIV /AIDS?
- What or which sexual behaviours are exhibited by college students?
- What is the relationship between knowledge, behaviours, attitudes regarding HIV/AIDS and the Life Orientation programme?

### **1.5 SIGNIFICANCE OF THE STUDY**

This study anticipate to produce practical benefits (Babbie 2012:67). The body of research will be expanded by availing scientific data on how Life Orientation programme on HIV/AIDS is changing the student's behaviour. The study will also be available in databases, and accessible to other researchers and the community at large. It is hoped that the information and recommendations will better inform policymakers regarding the development of programmes and policies which address risk behaviours of college students regarding HIV/AIDS. Continued education is also important, therefore this study can assist the DoE in drafting guidelines and review the ones available to suit today's youth. It is going to be of beneficial to Life Orientation teachers in schools as they might need to relook at the strategies and teaching methods they are currently using.

## 1.6 SCOPE AND LIMITATIONS

The study's focus was only on one tertiary college in the Randburg area. Respondents were level 1 students who have passed the Life Orientation subject. The researcher limited the study to unmarried students who gave consent to participate

## 1.7 DEFINITIONS OF KEY CONCEPTS

**1.7.1 AIDS:** A disease of cunning infections and ta disease that develops after the immune system is damaged (UNAIDS 2015:26).

**1.7.2 Attitude:** the way you think or feel about something (Kambole 2007:4).

**1.7.3 HIV:** It is the virus which deteriorates and damages the immune system (UNAIDS 2015:28)

**1.7.4 Knowledge:** Justified true belief, which includes three basic conditions namely; truth, belief and justification (Bolisani & Bratianu 2018:6).

**1.7.5 Life Orientation:** the subject which empowers the students to develop and participate in a variety of skills such as decision making and take suitable actions that are eloquent in a fluctuating society (DoE 2016:8)

**1.7.6 Risky behaviour:** According to Richmond (2011:1), are the actions that potentially expose anyone to the likely hood of getting HIV.

**1.7.7 Students:** someone who goes to school, college or university (Department of Education and Training 2012b:6)

## 1.8 OPERATIONAL DEFINITIONS

Janse Van Rensburg et al (2015:68) describe operational definitions as defining the terminology used in such a way that there is no possibility of misunderstanding what it refers to.

**1.8.1 Attitude** is the negative or positive feelings one has around HIV testing, stoppage and treatment. Attitude will be measured by how students are using the knowledge they have acquired to change their attitude towards HIV/AIDS.

**1.8.2 Behaviour** will be students' actions towards HIV. The actions will include getting tested, using condoms, having one or multiple partners and sexual debut.

**1.8.3 Knowledge** is the acquired information and skills about facts pertaining to HIV/AIDS and STDs, appreciation of facts about HIV/AIDS. Therefore, knowledge is the material, hands-on and information of HIV/AIDS that the students would have gained from the Life Orientation programme.

## **1.9 THEORETICAL FOUNDATIONS OF THE STUDY**

This study is centred on Aids Risk Reduction Model (ARRM) as discussed in Chapter 2. The ARRM postulates that for individuals to avoid being infected with HIV, individuals should perceive and acknowledge that their behaviours put them at risk, and therefore should be concerned (Catania, Kegeles & Coates 1990:53). The ARRM has been applied by several researchers such as Durojaiye (2011); Starks, Payton, Golub, Weinberger and Parsons (2014:711); Burke, Fleming and Guest (2014:577). The ARRM is made up of three stages, namely: (1) recognizing and labelling an individual 's risk behaviours as exposing one to HIV, (2) making an effort to modify risky behaviours, and (3) taking initiatives to change the risky behaviours such as condom use. The ARRM assisted the researcher in understanding whether the college students have the knowledge, attitudes and behaviours to make a change regarding the prevention of HIV/AIDS. Using ARRM, Setume (2018:129) explained that for positive change to take place, an individual needs to acknowledge his or her vulnerability. Some students were likely not to protect themselves from infection as they did not believe that they can be infected (Setume 2018:129).

## **1.10 RESEARCH METHODOLOGY AND RESEARCH DESIGN**

### **1.10.1 Research approach**

The study used a quantitative research approach. Quantitative methods encourage unbiased measurements and numerical, mathematical examination of information composed through surveys and questionnaires (Maxwell 2013:28).

It is in this research interest to find the pattern of data collected and quantify attitudes, behaviours, and knowledge as a result of Life Orientation programme on HIV/AIDS.

### **1.10.2 Research Design**

Babbie (2012:30) defines research design as the blueprint that guides data collection, measurement and analysis. A quantitative descriptive cross-sectional design was utilized to assess the relationships between Life Orientation programme and HIV/AIDS knowledge, attitudes and behaviours amongst college students in Randburg in this research.

### **1.10.3 Descriptive study**

A descriptive study is intended to extract additional evidence around study elements (Burns and Grove 2011:256). In this study, the descriptive design sought to provide a relationship between Life Orientation and the youths' attitudes, knowledge and behaviour by use of numbers, tables and graphs.

### **1.10.4 Cross-sectional research design**

According to Creswell (2018:20), the cross-sectional study is relevant in explaining associations amid phenomena at a static position in time. Information was gathered by the use of the questionnaire at the same time, and no other research was done after this data collection.

## **1.11 RESEARCH METHODS**

Clough and Nutbrown (2012:21) state that research methods show how research is done step by step in the field of study. A descriptive design was used to completely understand the behaviour, attitudes and knowledge of the youth about HIV/AIDS. A comprehensive account will follow in Chapter 3.

### **1.11.1 Setting**

The setting is the exact point or environment where data is gathered for the study (Polit & Beck 2017:510). The study was steered at TVET College in Randburg in the Gauteng Province of South Africa.

### **1.11.2 Population**

The overall group of people that can provide the researcher with the information required for the study is called population (Burns & Grove 2011:290; Babbie 2012:76). Population was drawn from all level 1 students from a TVET college in Randburg in Gauteng Province. This population was selected because the students have passed matric with Life Orientation as one of the compulsory subjects. A total of 222 level 1 students were targeted to take part in this research.

#### **1.11.2.1 *Sampling techniques and sample***

The selection of a subset of individuals from within a statistical population is called sampling (Murphy 2009:13). The present study applied probability simple random sampling method to make sure that everyone has the opportunity of being selected to take part in the research (Polit & Beck, 2017:255). The list of students was obtained from the Randburg TVET college management, to ensure that they are all given a chance to partake in the study (Polit & Beck 2017:255). Raosoft sample calculator was selected to calculate the sample size. The targeted population of level 1 students was 222. Therefore, according to the calculator the sample size was 141 calculated with a 5% margin of error, and 95% confidence interval (Polit & Beck 2017:255). More details of how the sample was calculated are elaborated in Chapter 3.

### **1.11.3 Inclusion and exclusion criteria**

These are criteria or characteristics of respondents that are targeted or not targeted by the researcher from population of study (Burns & Grove 2009:291). The inclusion criteria related to all college students that had done Life Orientation. The students were single, and in their level 1.

The exclusion criteria pertained to the students that did not study Life Orientation as well as those who were married.

### **1.11.4 Data collection methods**

Data collection methods are influenced by data gathering strategies. A self-administered questionnaire was deployed to gather data.

#### **1.11.4.1      *Research instrument***

A questionnaire allows the researcher to structure and formulate the data collection process (Gray, Grove & Sutherland 2017:53). Four questionnaires which addressed the research objectives were adapted and adopted from literature. The 15 items HIV knowledge questionnaire (HK-Q) was adopted from Carey and Schroder (2002) and was utilised to evaluate respondents' knowledge regarding HIV/AIDS. The AIDS education prevention behaviour questionnaire with ten items sought to determine the respondents' behaviour towards HIV/AIDS prevention (Froman, Owen & Daisy 2002). To measure the attitudes around HIV/AIDS, the 10 items of attitudes towards persons with AIDS questionnaire was adopted and utilised (Maswanya, Brown, & Merriman 2009). Perceptions on Life Orientation and HIV/AIDS with 18 items was used to measure the respondents' perceptions towards Life Orientation.

#### **1.11.4.2      *Pilot study***

A pilot study was carried out to establish glitches in research design, methods and material (Polit & Beck 2017:400). Twenty students were requested to answer the questionnaire and give feedback on language, clarity, time taken, and structure. The piloted questionnaires were submitted to a statistician and the supervisor. The Cronbach Alpha for the piloted study ranged between 0.72 and 0.9. Those which were repeating, ambiguous or otherwise were either rephrased or deleted.

### **1.11.5 Data management and analysis**

#### **1.11.5.1      *Quantitative data analysis***

The IBM Statistical Package for Social Sciences (SPSS) version 25 was utilised to analyse the data obtained. Completed questionnaires were recorded after they were collected from respondents and data was fed into the software. Both descriptive and inferential statistics were used as follows:

#### **1.11.5.2      *Descriptive statistics***

Descriptive statistics were used to give a summary and define research questions and objectives. The following instruments were described and analysed: 1) Aids Attitude

Scale; 2) HIV knowledge questionnaire; 3) Safe sex behaviour questionnaire and 4) Life Orientation HIV/AIDS components.

Descriptive assessments were deployed to calculate the central tendencies (mean, median and mode), and standard deviation of all sections of the questionnaires.

Inferential statistics were also used to make interpretations about the population according to the data gathered from the sample (Polit & Beck 2017:400). The t-test was deployed to test the significance of the difference among the group means. It was deployed to test the association between knowledge, attitude and behaviour (Sullivan 2012:152).

### **1.12 VALIDITY AND RELIABILITY OF RESEARCH INSTRUMENT**

The piloted study established the instruments' reliability and validity, namely: its format suitability, content rationality, how difficult it is, and time to complete it. Subject specialists were consulted to check and authenticate the suitability of the items in the questionnaire. Internal consistency was determined with the use of Cronbach alpha to make sure that questionnaires were measuring effects of Life Orientation on HIV/AIDS knowledge, attitude and behaviour (Polit & Beck 2017:310). The researcher ensured that the Cronbach alpha scored above 0.70 by increasing the number of items on the questionnaire (Polit & Beck 2017:310). If the coefficient is 0.70 or higher, it shows a relatively high-reliability coefficient.

### **1.13 ETHICAL CONSIDERATIONS**

According to Maxwell (2010:327), ethics demands that moral values are adhered to. The Research Ethics Committee awarded the Ethics clearance certificate from the Department of Health Studies, University of South Africa (UNISA). Authorization to undertake the research was granted by the Head of Office of Gauteng South Colleges. Respondents were told about the study and invited to give their informed consent. All the ethical principles, for example, of privacy, confidentiality and anonymity were ascertained.



### **1.13.1 Ethical Clearance**

The researcher could not start the data collection without permission from the institution. Prior to that, ethics clearance was bestowed by my University. To access the respondents, permission was requested from both DoE and TVET College.

### **1.13.2 The Principle of Respect for Human Dignity and Informed consent**

Respondents were provided with adequate information so that they could make an informed decision. The right to withdraw from the study was also emphasised upon. Written informed consent was sought from all research respondents.

### **1.13.3 The Principle of Justice**

The principle of justice gives the respondents a chance to report and seek legal action if rights are violated. In this study, the respondents' right were fully explained to them and highly protected. Respondents were advised not to write their names on the questionnaires.

### **1.13.4 The principle of Beneficence**

Respondents were not put to any harm or risk. In order to observe this principle, the researcher explained that participation was their choice, and could be withdrawn whenever respondents were not comfortable.

## **1.14 ORGANISATION OF THE STUDY**

The chapters are arranged conferring the following ideas:

**Chapter 1: Orientation of the study:** this consists of the study background, purpose and objectives, significance of the study, definition of key terms, design and methodology, the scope of the study and the structure of the dissertation.

**Chapter 2: Literature review:** A conceptual framework of knowledge, attitudes and behaviours of youths towards HIV/AIDS is given. An overview of the ARRM theory is outlined to understand the college students' susceptibility to HIV. Literature was sourced from textbooks, internet, articles, journals, research reports and magazines.

**Chapter 3: Research design and methods:** it consists of detailed research design and method, that is sampling, population, data collection, data analysis and the chapter also looks at the validity of the study.

**Chapter 4: Analysis, presentation and description of the research findings:** consists of data management and analysis, research results and the overview of the research findings.

**Chapter 5: Conclusion and Recommendations:** consists of the summary of the research design and method, summary and interpretation of the research findings, conclusions, recommendations, contribution of the study, and limitations of the study.

## **1.15 CONCLUSION**

This chapter has given an overview of the research. The background to the study, the problem statement, aims and objectives of the study and the significance of the study have been discussed. The research design and method, scope and structure of the dissertation have been outlined. The next chapter highlights the literature review.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 INTRODUCTION**

Review of literature for this research is engrossed on the global, Sub Sahara Africa and South Africa. The current chapter, scrutinizes literature on the background of HIV/AIDS, effects of Life Orientation on HIV/AIDS, the purpose of Life Orientation HIV/AIDS programme on knowledge, attitudes and behaviours of the youth regarding risky sexual behaviour, and the theoretical framework of the study will be briefly explored.

A literature review is considered to be a text written about current knowledge with findings, theories and methods contributing to a topic (Kiteley & Stogdon 2014: 5). This is also supported by Brink et al (2012:34), who mentioned that it is a method of recognizing, evaluating and interpreting the work produced by other researchers. Therefore, from these definitions one can deduce that a literature review is not a conclusion of one's understanding of a studied text, but rather, an essential component of research which is purposed to review, interpret and summarise current knowledge in a brief, objective and logical manner (Coughlan 2013: 2).

The other reasons for literature review stated in Brink et al (2012:71) are to conduct logical review of fresh academic works on the matter by checking what is being known, to refine the research topic and research questions, to get guidance on the methodology and instruments to use, and to compare the current studies with other studies.

Burns and Grove (2011:40), supported by Polit and Beck (2012:273) suggest that a literature review consists of four fundamental elements namely: a general statement, its position to previous research, and recognition of a gap in the investigation, and its position to present research. The gap in the research points to that which may be absent in prior research, and illuminates the reasons for the need for the present study. Lastly, the position of current research involves stating again the objective that clarifies the planned accomplishments of the present research.

This is also supported by Creswell (2014:34), who acknowledges that literature reviewing prevents researchers from reproducing what has been produced already. It exposes gaps in the literature and helps the researcher to position his/her research accordingly. The other uses of a literature review are that they teach readers about your topic and focus, as well as help researchers to understand the research problem easily (Des Vos, Delport, Fouche & Strydom 2011:134)

## **2.2 HIV/AIDS OVERVIEW**

The world discovered the disease in 1981 when the Centres for Disease Control and Prevention (CDC) in Atlanta, United States of America described a rare occurrence of a form of pneumonia (then called *Pneumocystis carinii* pneumonia) and rare cancer (Kaposi's sarcoma) in five homosexual men in Los Angeles (Van Dyk 2012:34). In 1982, it was named AIDS which stands for Acquired Immunodeficiency Syndrome. Acquired means it is caused by a virus, in this case, HIV (Human Immunodeficiency virus). Immunodeficiency refers to the immune system's inability to defend itself and Syndrome is a medical term for a collection of symptoms and signs that are a characteristic of a particular condition (Van Dyk 2012:39).

The World Health Organisation (WHO) in 2017 reported that the retrovirus biological makeup was unique. The HIV destroys the immune system which paves way for opportunistic infections. According to UNAIDS (2017:23), AIDS terminates the capability of the body to fight against diseases leaving the body vulnerable to attack from different infections and diseases. According to Van Dyk (2012:49), HIV goes in the body and damages the immune system. HIV is transmitted mostly by unprotected sexual intercourse (that is without a condom), infected blood passing through directly in the body of the other person through birth or during pregnancy. High quantities are found in the blood, semen and vaginal fluids.

The global response to the AIDS pandemic was that of denial and blame. No quick action was taken to end the disease. The first case of AIDS was documented in 1983, in South Africa (Van Dyk 2012:46). Since then, it has been a struggle. A lot has happened to get South Africa where it is today. Its response to the pandemic was just like the global reaction of denial and inaction. In the mid-1980s, HIV was seen as a gay-caused disease which was because of promiscuity.

For South Africa, the need to prioritise HIV was acknowledged in 1990 in Maputo by the ANC (African National Congress) and other groups like the National Medical and Dental Association (Karim et al 2010:32). There was great hope when Mandela took office in 1994, but the government was facing a lot of challenges that HIV was not one of its priorities. The government was struggling with apartheid rule (Hodes 2018:1). The most oversight of the Mandela era was when they refused to provide azidothymidine for mother to child prevention in 1998, four years after it has been proven in the United States of America that it works (Van Dyk 2012: 9). Hodes (2018:1) supported the above statement that the Ministry of Health and the South African government failed to offer the ARVs to the community. This gave birth to the formation of the Treatment Action Campaign (TAC) during 1998 being led by Zackie Achmat to advocate for the treatment of those living with HIV (Karim & Karim 2010:43). The Treatment Action Campaign sued the government for not providing Nevirapine to protect mother to child transmission and won (Simelela & Venter 2014:289).

This was followed by the Mbeki era in 1999 after the second democratic elections lasting until 2008. This era is referred by Van Dyk (2012:9) as South Africa's darkest days in the tackling of the AIDS pandemic. To quote him, "This era was characterised by a president who linked up with AIDS nonconformists, who alleged that HIV cannot lead to AIDS, and by a minister of health (Manto Tshabalala -Msimang) who refused to approve antiretroviral treatment for pregnant women". Nevirapine was made available in 2002 after a constitutional ruling against the government because of the efforts of Treatment Action Campaign. The same minister was controversial when she rolled out and promoted untested and unlicensed traditional remedies and vitamin supplements as alternatives to AIDS treatment (Karim & Karim 2010:54).

The only positive thing that was introduced during the Mbeki era was the provision of antiretroviral therapy free for all South Africans in public clinics. Former President Mbeki was forced to resign and was replaced by Jacob Zuma in 2008 (Simelela & Venter 2014:290). Then-president Zuma appointed Dr Aaron Motsoeledi as Minister of Health. The new government committed itself to implementing a five -year plan to tackle HIV. The Health Department also introduced HIV counselling and testing (HCT) programme in 2010 (Karim & Karim 2010:30).

According to research, tertiary colleges have high rates of infection, especially among females (Mutinta 2010:29). This is because they are mostly dating older people as compared to their counterparts. According to this survey, the rate at which the females are infected is higher against males of the same age group (2.5% against 0.6%) (Human Sciences Research Council - HSRC 2014:25).

There are also geographical differences in terms of HIV prevalence. Gauteng is among the middle, it does not carry the highest, neither does it fit among the provinces with the lowest. Gauteng province comprises of the largest population that is roughly 14.7 million people (25.4%) (StatSA 2018:1). The HIV occurrence rate estimation is roughly 13.1%, and the number of PLWHIV for adults 15-49 years is projected at 19,0% in South Africa (StatSA 2018:1). The report also noted a reduction in people dying from HIV/AIDS from 2007 to 2018. Estimated figures are 276 921 to 115 167 deaths from AIDS respectively. This is attributed to the use of antiretroviral drugs. However, according to StatSA (2018:7), the number of persons who are HIV positive grew from 4.25 million in 2002 to 7.52 million by 2018. There is also a decline noted in youth aged 15-24 since 2002 6.7% to 5.5% in 2018.

### **2.3 HIV AND AIDS AMONGST THE SOUTH AFRICAN YOUTH**

Youth define the pace of a country especially in terms of development because of their energy, new inventions and character (UNAIDS 2017:15). The youth (15 -24years) acquire about 50% of all new infections (McLaurin et al 2015:34). The youth aged 15 -24 are the ones in front of the danger of the epidemic (UNAIDS 2018:10). The largest proportion of HIV infected is the 15 to 24 years age group (Department of health 2015). The youth constitute about 50% of all newly acquired HIV infections and 64% of HIV infection worldwide (UNAIDS 2018:12). It has been estimated that 15% of women and 5% of men aged 14 to 24 years are HIV positive in South Africa (Masoda & Govender 2012:34). Of the pregnant teenagers visiting public clinics, an estimation of between 14% and 16% is said to be HIV positive (National Department of Health 2017:26). The easy tearing of young women's reproductive tracts, since they are still developing, put them at risk, and vulnerable to infection (United Nations Population Fund (UNFPA) 2018:24). Hence, there are more women infected, an estimated 7.3 million as compared to young men 4.5 million. Two-thirds of the females between the ages of 15 to 19 are in SSA (StatSA 2017:10).

Rendering to the South African National Aids Council (2015:46) report, HIV frequency amongst youth around ages of 15-24 years experienced an upsurge in prevalence between 2002 and 2005, and then a decline from 10.3% in 2005 to 7.1% in 2012. However, young females have high rates of HIV infection and its increasing functionally as they move from adolescence (6.7%) into young adulthood (21.1%) (Department of education 2012:28). Furthermore, the DoE (2012:28) explained that there is a decline in young people HIV incidence, with recent evidence showing that the percentage of new infections upsurges amid youth as they progressed to adolescence. These are the people now in colleges being targeted by the current research.

Humphrey (2019:21) reported that 40.3% of high school learners in South Africa showed they were already active sexually. The distinctive age of these learners of sexual debut was 13 years. Additionally, Hoffman, Levasseur, Mantell, Beksinska, Mabude, Ngoloyi and Smit (2017:21) revealed that high school learners have elementary knowledge about HIV/AIDS, which is too little to alter risky sexual behaviours. Environmental factors, such as the college atmosphere, can also influence a lot of young people as they are becoming independent.

With such independence comes challenges, and some of the challenges they may face involve the shaping of their behaviours around sexual wellbeing. In most cases, the youth will participate in risky behaviours like having sex with a lot of partners, not using protection, and drug and alcohol abuse (Humphrey 2019:19).

It is recognized through research that substance abuse, experimentation with drugs and alcohol and not using condoms are increasing the chance of youth being infected (Bao, Qiu, Yan, Jia, Li, Lian 2013:40). Bao et al (2013:40) indicates that this behaviour will increase their chances of being infected as these drugs compromise their judgement. This calls for the prioritising of the reduction of HIV/AIDS in South Africa. There is need therefore to focus on HIV/AIDS consciousness programs that teach the youth to abstain or delay sex and ways to change their behaviour (Visser 2012:24).

According to a study done by Thanavanh et al (2013:35), most of the youth knew that HIV is passed from one person to another using same needles and having sex that is not protected. Misconceptions about transmission were observed in this research group and half of the surveyed students were willing to learn and be taught with HIV

positive individuals. Among these youth, 94% had done sex previously. However, 70% of the youth had used condoms, and only 43% had used condoms consistently. This literature shows that in terms of HIV/AIDS the youth are knowledgeable, but are still in danger of the disease.

## **2.4 KNOWLEDGE OF HIV/AIDS AMONGST THE YOUTH**

Assessing the study done by Thanavanh et al (2013:34), most of the youth surveyed were cognizant that HIV is sexually transmitted (97.7%), can be transmitted to the child from the mother 88.3%, and over shared needles about 92%. There was a high note of misconceptions about routes of transmission, even though there seems to be enough knowledge amid the students about HIV/AIDS. The study that was done in Botswana in Stephens, Bachhuber, Seloilwe, Gungqisa, Mmelesi, Bussmann and Wester (2012:23) reports that most of those aged 15-24 years knew about HIV/AIDS, but only two-thirds knew that HIV was related to AIDS.

Young people had less HIV/AIDS knowledge in spite of many people dying in their villages. Half of the 15 to 24 understood how HIV develops to AIDS. Half of them had no idea how long it took for HIV to progress to AIDS. Almost all youth knew about condoms and preferred collecting condoms around places where they are not asked questions by adults (UNICEF 2010:56). This shows that if condoms are more accessible, there is the likelihood that the youth will use them.

Research shows youth have a great deal of HIV/AIDS knowledge (Stephens et al 2012:23). Yet despite this adequate knowledge, a continual of high-risk behaviour characterises their daily lives. Most of the youth are having an early sexual debut, have many sexual partners, and rarely take protective measures such as using condoms. The research that was done in Botswana by Faimau, Maunganidze, Tapera, Masomane, and Apau (2016:27); Zainiddinov and Habibov (2016:67) also support this notion. Despite the knowledge the undergraduates have of HIV/AIDS, they still go ahead and have multiple partners and have sex without protection. Wagner et al (2010:34) proposed that information is necessary, but not adequate enough to cause behaviour change.



According to the ARRM, behaviour change is mediated by other concepts such as self-efficacy, personal motivation, and behavioural intentions (Catania et al. 1990).

Other reviews in other countries recommend the role being played by schools in introducing interventions that are assisting the youth in the reduction of HIV transmissions. Harrison et al (2010:34) argued that the evaluations of these interventions especially in the Sub Saharan Africa have impacted greatly in terms of knowledge and attitude, for example, the trials that took place in Tanzania, Mema Kwa Vijana Project and the Zimbabwe, Regai Dzive Shiri project. There is also a need to strengthen existing programmes to lessen youth HIV incidence in South Africa.

There is not enough evidence to determine whether any of these educational programmes are decreasing rates of pregnancy, increasing the use of condoms, reducing STIs and HIV infection (Zainiddinov & Habibov 2016:74), but if the programmes in some way delay the onset of sexual intercourse, lessen sexual partners, or upsurge protection use, then they would effect the results needed.

## **2.5 ATTITUDES OF THE YOUTH TOWARDS HIV /AIDS**

Negative attitudes to HIV/AIDS were identified in Thanavanh's et al (2013:24) research and risky sexual practices. According to this study, 61.0% only knew that HIV is not passed by shaking hands with People Living With HIV/AIDS. The students exhibited positive attitudes towards PLWHA, thus demonstrating less stigmatisation. When assessing attitudes, Thanavanh et al. (2013:25) reported an increase in favourable attitudes towards risk reduction. In one of the assessments that targeted sexual behaviour, sex was delayed, and partners were reduced and there was also an improvement in condom use. In another evaluation done by Zainiddinov (2019:43) who evaluated attitudes towards PLWHA, significant improvements were reported. However, in another research completed in Botswana, Faimau et al. (2015:23) stated that the undergraduates were associated with having undesirable attitudes towards HIV/AIDS, and there was also stigmatisation.

Additionally, some available research results show positive outcomes regarding attitudes and knowledge, and only a little evidence of reducing risky sexual behaviour (Gallant & Maticka-Tyndale (2004:35) cited by Visser 2012:26).

According to Harrison et al. (2010:53), there are mixed results in current surveys of youth HIV prevention programmes. Some of these trials show that they have increased the protective behaviours of the youth but failed significantly in terms of the reduction of HIV incidence (Harrison et al. 2010:60).

In SSA, interventions have been mostly school-based, aiming to promote abstinence, increasing knowledge, change attitudes, self-esteem and self-efficacy. Most of the interventions have however not produced the wanted results after evaluation in terms of targeted outcomes (Visser 2012:66). Previous evaluations have identified limitations such as targeting the wrong age group, especially older people, instead of those not yet sexually involved (Vhethe 2011:29). Programmes done by others have shown that it is encouraged to change low-risk behaviour in youths than to change behaviour in adults hence directing behaviour change programmes to target the youth (Mwale & Muula 2017:17). If effective programmes are implemented more broadly, they could have a substantial effect on reducing sexual risk behaviour in our youth today.

Therefore, all those who have a duty of bringing up children need to see that children are protected from getting STIs and HIV/AIDS (Vhethe 2011:33). These improvements will support the government to improve the quality of education (DoE 2012:12). Schools will be able to redress gaps and redirect resources where they are needed. When the school is the key meeting point, hundreds are going to be reached and this can be a major player in altering social behaviour and helping in education and prevention of the pandemic. Blackett-Dabinga et al. (2006:16) emphasised the need for collaborative effort to reach thousands of children. In conclusion, this review suggested that attitudes and knowledge are very easy to alter, but behaviours are most challenging to change.

## **2.6 RISKY BEHAVIOURS AMONGST THE YOUTH**

Youths behaviour is found to increase their susceptibility to getting HIV infection in South Africa (DoE 2012:12). This comprise of early sex, unreliable condom use, too many sexual partners, intergenerational sex, transactional sex, substance abuse, ignorance of one's HIV status and lack of knowledge of HIV stoppage methods (DoE 2012:21). This is also supported by Costa, McIntyre and Ferreira (2019:7) who stated

that youth are mostly in danger because of the love for sex and experimenting, many sexual encounters, and less knowledge to prevent themselves from HIV.

### **2.6.1 Sexual debut**

According to Karim and Karim (2010:34), the chief cause of HIV in South Africa is sexual behaviour. Furthermore, South African youth are active sexually from the ages of 12 to 14. Additionally, 11% of males and 6% of the females had sex before 16 years. Several South African studies showed how risky the South African youth behaviours are besides having enough knowledge about sexual high-risk behaviour (Visser 2012:43). According to Visser (2012:43), 38% of learners in Grade 8-12 were sexually active and 31% used condoms consistently. The South African National Aids Council (SANAC) (2015:21) reports that these numbers are even increasing. Sex before 15 escalated from 10% in 2012 to 10.7% in 2014. Therefore, this puts youth at risk as they start having sex early, before they have enough knowledge to protect themselves.

According to the DoE (2012:23), there are gender differences in these behavioural attributes. Young males start having sex earlier than the female, having sex when drunk, not bothering to check their status, and having many sexual partnerships. This is also supported by the HSRC survey in 2012, where males had advanced rates of early sex before 15 years than females.

### **2.6.2 Intergenerational sex**

In contrast to sexual debut, young females engage in transactional and intergenerational sex, and are likely to have sexual intercourse without protection than males (HSRC 2012:23). UNFPA (2003:34) also highlighted that some factors that also put young women at risk are early marriages.

Young women have a greater chance of marrying a man who had many partners already. A study done in Kisumu, Kenya discovered that most women who had husbands that were 10 years older were positive unlike those who married husbands who were only 3 years older than them (HSRC 2012:23). The author further explains that feelings of invulnerability among adolescents also put them at risk. Most youths also think that they are safe from HIV infection. Case studies done by the WHO (2017:43) showed that only one fifth consider themselves at risk. These young people

rarely recognise that whoever they are having sex with at that moment can increase their chances of being infected.

The HSRC (2012:23) reported that about one-fifth of all respondents were involved in a sexual relationship at one point with someone older than 5 years. Transgenerational sex places women more at danger of contraction of HIV/AIDS compared to men.

### **2.6.3 Negotiating skills**

The other factor is the inability of girls, for cultural reasons, to bargain for safe sex (Baiocchi, Friedberg, Rosenman, Amuyunzu-Nyamongo, Oguda, Otieno & Sarnquist 2019:32). The social status of young girls predisposes them to be more vulnerable to HIV/AIDS. Baiocchi et al (2019:32) revealed that girls who carried condoms were labelled as prostitutes, or having HIV/AIDS. Philemon (2008:12) discovered that most girls do not have sex negotiating skills. There is lack of economic and social empowerment, and the girls also have limited knowledge in terms of the knowledge of the disease. Young girls are also limited in terms of power and skills to negotiate monogamy, condom use and circumcision of their partners (Dellar et al. 2014:12). Lack of negotiation skills amongst young women could be a result of gender inequality, culture and religion.

On the other hand, Ganle's (2016:45) research on masculinity also stated that masculinity is a barrier to behaviour change and increase HIV incidence in youth. This is because masculinity destabilizes efforts among youth to stop the infection. A young man is viewed as a real man, fearless, bodily strong, and extremely sexual; hence, the need to sustain these characteristics by having multiple partners, and being sexually dominating over young women.

Other studies discovered that college students who have high self-efficacy, and great backing from parents and friends, have a higher chance of negotiating safer sex with their partners (Getachew & Weldihanes 2017:14). Openness and assertiveness will give them the confidence to negotiate safer sex. This is supported by Costa, McIntyre and Ferreira (2018:2), who stated that young teens with good communication skills can communicate and negotiate condom use easily. Parents and teachers must encourage sexual dialogue to empower the youth.

#### **2.6.4 Alcohol and drug abuse**

The abuse of substances is unswervingly connected to the rise of HIV/AIDS among the youth (Morejele, Nkosi, Kekwaletswe, Saban & Parry 2013:2). Drug abuse, especially sharing of needles, is a dangerous way that spreads HIV faster because the virus enters directly into the bloodstream (Deren, Cortes, Dickson, Guilamo-Ramos, Han, Karpiak & Wu 2019:12). Alcohol, on the other hand, increases risky behaviour since people tend to lose control when intoxicated. A study in Rwanda discovered that youth aged 15 – 24, who drink alcohol, have higher chances of having sex without using a condom (UNFPA 2018:29). According to the HSRC (2012:76) survey, alcohol and abuse of drugs were among the high dangers of HIV exposure.

#### **2.6.5 Poor/lack of parental figures and supervision**

Poor parental monitoring and less availability of parental figures in the family is also associated with risky sexual behaviour, as there is no one to guide the youth into respectable behavior and teach them the skills necessary for healthy sexual behaviours. This leaves everything to teachers in schools. The other factor is the lack of knowledge among parents to guide and talk to their children about HIV/AIDS (Taukeni & Ferreira 2016:6). Research has found that youth who have completed school have less chances of being infected with HIV (DoE 2012:17). High rates of infection in young people call for high interventions to be implemented at the youth level, the need to address gender inequalities, as well as men to get involved in prevention programmes.

#### **2.6.6 Multiple sexual partners**

According to UNAIDS (2018:25), multiple sexual partnerships increased from 7% to 12.6% among the youth aged 15 and older. Males had higher chances than females in more than one partner. According to Karim and Karim (2010:3), men aged 15 to 24 testified of having numerous partners in a year. Condom use by youth aged 15 to 24 with numerous partners was reduced from 63.75% to 62.25% (UNIADS 2018:26). These numbers are scary, and they call for an immediate intervention that is appropriate among the youth. According to Christofides et al. (2013:13), youth with multiple partners were associated with a high pregnancy rate and high HIV/AIDS risk.

### **2.6.7 Condom use among the youth**

Used correctly, condoms can actively stop HIV and other STIs transmissions. Levels of condom use vary widely between groups, but are generally low in South Africa (Karim & Karim 2010:35). Youth, being the most sexually active group, is the one at most risk of infection. Changes in sexual behaviour are a prerequisite, and the use of condoms has reduced the infections in other countries and South Africa (Singh, Darroch & Bankole.2003:34). There is not enough data about condom use, since not enough has been documented in South Africa. The HSRC in 2008 reported an increase among males and among young females in 2002 to 2008 in the usage of condoms (Shisana et al. 2008:29). Additionally, the HSRC (2018:10) reported that there was a noteworthy change in the use of condoms, with males using condoms more with the most recent partner, than the females.

Blockades to condom use are centered on the lack of trust and infidelity, and disempowerment of women (Kanda & Mash 2018:9). In colleges, although condom use remains an important preventive health behaviour according to McLauren et al. (2015:34), there is low consistent use of condoms. A study done in the Democratic Republic of Congo also highlighted that there is resistance to condom use due to religious beliefs, poor education levels and misconceptions (Masoda & Govender 2012:50). Costa et al. (2019:6) also highlighted that some religions hinder women's knowledge about HIV and STDs, and this prevents women from getting information. In this regard, women are obscured from getting information concerning condom use and contraception, as well as how they can protect themselves.

Large campaigns are being carried out in South Africa about condom use. It is reported that the improvement in knowledge and positive attitudes towards using condoms are contributory factors towards the prevention of HIV/AIDS in other countries (Kanda & Mash 2018:9). A lack of knowledge in youth makes them not use condoms, believing that condoms decrease pleasure (Masonda & Govender 2012:52). The authors pointed out that for youth to enjoy using condoms, they must have faith in the effectiveness of condoms, peers must show confidence in using the condom, in using it correctly, and in the ability to sell or talk about the subject to the partner.

Furthermore, Masonda and Govender (2012:52) also mentioned that it depends on the kind of relationship, whether it is a casual or long-term relationship. People tend not to use condoms with long term relationships (Kanda & Mash 2018:9).

There are also reasons mentioned by Masonda and Govender (2012:54) for the low use of condoms, and these include: not using condoms during the first time, trouble in the procurement of the condoms, and reduction in sexual pleasure. According to Visser (2012:24), free condoms were perceived negatively by the youth. In this regard, condoms obtained from the clinics were considered not to be strong, and related to reduced sexual pleasure (Visser 2012:24). A lot of misconceptions regarding condom use were also identified by (Musinguzi, Bastiaens, Matovu, Nuwaha, Mujisha & Kiguli 2015:7). Young people alleged that condoms were laced with HIV/AIDS, liable to burst, ineffective and too big or too small for African youths. Youth were also finding it difficult to obtain condoms. Youth feel judged and ashamed to buy condoms from shops (Musinguzi et al. 2015:7). The policymakers need to look at all these condom use barriers, and develop a strategy that would make it comfortable for the youth to access condoms.

### **2.6.8 Circumcision**

The foreskin contains cells which act as the entry point for HIV/AIDS; hence, the need for circumcision (AIDS Foundation of South Africa 2012:5).

In 2006/7, trials that were done showed that medical male circumcision lessens the dangers of infection of HIV by 50 – 60% (Karim et al. 2010:38). However, several important factors need to be carefully considered; such as sexual behaviour, religion, hygiene, viral load and immune status. According to the HSRC (2012:2) survey, half of the male respondents aged 15years and older were circumcised. The author reported that 52.5% have been circumcised in the traditional way, in the mountains or initiation schools, and 40,1% through voluntary male medical circumcision. Most males between 15-24 years were circumcised in clinics, while those older in traditional settings. The survey indicated an increase in the overall rate of circumcision from 2002 to 2012. Therefore, youth need to be encouraged to get circumcised.

### **2.6.9 Voluntary HIV counselling and testing among the youth**

Voluntary counselling and testing (VCT) is a system of HIV/AIDS counselling and testing on one's own accord. It is an intervention that provides an individual with the opportunity to test for HIV/AIDS without being coerced, tested by the use of approved HIV testing protocol, and with pre and post counselling (Commonwealth Regional Health Community Secretariat 2002:5). Individuals are still frightened to go and get tested because there is still a lot of stigma around HIV/AIDS in Africa. HIV/AIDS is stigmatised as self-inflicted through promiscuity and unprotected sexual encounters; hence, people are scared to get tested (Kambarami & Sumbulu 2011:8). Youth who are positive are secretive for the fear of friends, families, communities, and sometimes even their lovers rejecting them. A research done in KwaZulu Natal shows that most youths were not interested in getting tested (Leadbeatter 2012:31) as they do not see the benefits of testing.

There is need in Southern Africa to increase more VCT, and also train more counsellors. According to the Department of Basic Education (2012) report, some tests were administered to individuals aged 15 to 49 years in 2013/2014. The report emphasises that getting to know one's status through routine VCT is key to people getting treatment, care, and support (SANAC 2015:15). The government needs to train and increase campaigns to teach the youth that knowing their status is important.

Mass Media Campaigns on social media, TV shows like Esidingo, Rhythm City, Soul City, radio, newspapers and school-based campaigns are being done to inform the public about HIV/AIDS. Today many countries have deployed different strategies to try and combat the disease, but these efforts seem to be reaching a dead end. The hope of a discovery of a cure has since evaporated from the hearts of many. The only hope right now is to cultivate a culture of behavioural change. The Ministry of Education has introduced life skills from a tender age to try and teach the young ones the important skills they need in today's pandemic era.

## **2.7 OVERVIEW OF LIFE ORIENTATION**

The DoE introduced a policy to look into the introduction of life skills in schools.



Thaver (2012:43) stated that this programme was introduced in 1995 by the South African DoE and the Department of Health and Welfare. The policy was intended to solve the HIV epidemic in South Africa by introducing life skills curriculum in schools. The goals, according to Thaver (2012:40), were to:

- offer information in terms of HIV transmission
- Teach life skills

Prajapati, Sharma and Sharma (2016:21) also support the above notion, and stated that the basis of life skills must include HIV/AIDS education, and teach skills like, self-esteem, interpersonal relationships, and health studies. The content of the intervention was to include:

- sexuality and HIV/AIDS.
- health-protective behaviour such as, assertiveness, communication, and negotiating skills.
- The enrichment of a positive attitude (Prajapati et al. (2016).

In this research, the aim is to evaluate this program, and see how it has impacted the youth in terms of their prevention knowledge, attitudes and behaviour change towards HIV/AIDS, especially in college students in Randburg, a suburb in the Gauteng province.

## **2.8 PURPOSE OF LIFE ORIENTATION**

The advantage of many people who go to schools every day is that they give educational institutions the power and advantage to distribute information that helps in reducing the young people's sexually risky behaviour (Visser 2012:34). There is a chance that young people could reverse the trends of HIV/AIDS since they are more likely to adopt new behaviour (Monasch & Mahy 2006:45). UNAIDS (2014:23) stated that education plays a major role in reducing infection among the youth. Young adults attending school have fewer chances of getting HIV than those who are not, even when they are not being taught about HIV/AIDS in school (Wood & Hillman 2013:15). Education diminishes the boys and girls chances of being infected and each year adds to the important skills they can use to reduce risky behaviours and built positive attitudes (Mohapi & Pitsoane 2017:17).

Education can protect the society from HIV/AIDS (UNAIDS 2005). This concept of social vaccine is said to offer protection to individuals from unwanted consequences (Wiseman & Clover 2012:54). Therefore, education decreases the rampant spread of HIV and AIDS in our society, especially in young people who are the main concerns of this study (Department of Health 2011:26).

According to UNESCO (2016:45), Life Orientation is considered to teach the youth skills and inform them about all aspects of life. Vhethe (2011:44) suggested that Life Orientation is anticipated to enhance communication among the youth. This kind of communication empowers young people and exposes them to information. There is a chance of dialogue on risks and options. Communication teaches young people negotiation skills and assertiveness. Young women tend to have less power than young boys. From different studies, not only are there more infections in women compared to men, but women get infected earlier than men (Karim et al. 2010:15).

Chippis and Simpsons (2012:23) reveal that lack of knowledge and correct attitudes are the causes of the swift increment of HIV/AIDS amid the youth. This gap is the one that the Department of Education intended to close, so that the youth can change their attitude and increase their knowledge regarding risky behaviours. Life Orientation is meant to effect healthy sexual behaviour, reduce risky behaviour, and change attitudes to issues like substance abuse among the youth. This helps the youth in making knowledgeable choices. (Department of Education 2016:56)

## **2.9 LIFE ORIENTATION CONTENT**

Life Orientation comprises of sex education. Sexuality education gives information about the use of condoms, abstinence and non-penetrative sex (Foluso & Odu 2010:45). Youths upstretched risk of HIV infection is a contribution of poor information. Sex education helps in improving youth knowledge of HIV/AIDS; thereby decreasing risky behaviours, encouraging HIV testing, and providing information on where to get treatment (Shokoohi et al. 2016:23).

School HIV/AIDS education programmes are a significant and efficient method for adolescents to obtain knowledge, and change attitudes and health sex behaviours.

These programs need to enhance behaviours like delaying sexual debut, and reducing the rate of recurrence of sex, many partners, incidents of unprotected sex, STIs and pregnancy rates; and increased condom and contraception usage among the sexually active youth (Rockwell 2016:43).

On another hand, Life Orientation teaches communication skills. In 2012, the National Communication Survey on HIV and Aids embarked on positive communication on youth (aged 15-24) and it increased condom use, visiting testing centers and male circumcision. Condom use was reported high in youth, and low in older people. Avert (2018:32) reveals that HIV prevalence of an area decreases as people get educated, and just basic education can lessen infection amongst the young people, and that there is less vulnerability amid educated people. Once these young people are working, they depend less on sugar daddies, and have more power over their sexual lives, especially girls. They have the confidence to tell their male counterpart to use a condom, or to stop.

Karim and Karim (2010:56) stated that experiences by many countries have revealed that HIV infection can be stopped by young people. The authors further advocated that knowing your status helps in stopping the pandemic greatly. They went on to highlight that there was need to break the silence, especially about stigma.

Therefore, there is need for comprehensive sex education in schools. According to Visser (2012:246), parents must also be involved in talking to their children about sex. Traditionally, uncles or initiation schools were supposed to be there to teach and train the youth about sex, but nowadays this is not happening. There is, therefore, the absence of guidance for the youth. On top of the decayed traditional system of initiating these youth into adulthood, most parents are absent in their children's lives, especially the youth, to give them advice on sex education. The burden is left to schools hence, the need for comprehensive sex education in schools.

Comprehensive education promotes an all-inclusive programme regarding skills to make decisions pertaining to young people and their health (Collins et al. 2002:23). If students are equipped, there is a better chance that they will use the ammunition. The introduction of Life Orientation in the National Curriculum was proposed to train youth against life challenges. UNAIDS (2017:34) stated that young people are not getting enough information. Just supplying facts about HIV/AIDS is not enough.

## **2.10 LIFE ORIENTATION AND HIV/AIDS**

Different approaches and procedures were implemented, and followed in different provinces, and Gauteng, where Randburg falls was no exception. The South African education sector started to respond to the HIV/AIDS disease in 1990. Chimanikire (2014:35) quoted the Department of Education (2016:20) describing Life Orientation as a course established to engage and develop the psychological wellbeing, physical wellbeing and the social wellbeing of learners in all areas to reach their full potential.

Schenker and Nyirenda (2002) cited by Chimanikire (2014:35) indicated that the school environment is perceived to be conducive to group learning, interaction, and understanding of how HIV/AIDS is transmitted, and in what way individuals can be safeguarded from contracting the virus. According to Wiseman and Clover (2012:45), basic education enlightens the youth, empowers them with decisions-making skills that impact their lives, and brings behavioural alteration and prevention of HIV infection.

HIV/AIDS education was introduced in Life Orientation. This introduction to the school curricula was aimed at bringing a wave of change among the youth. It was a ladder to an AIDS-free generation. This current investigation seeks to examine if this curriculum is working towards those goals. Gayene (2016:38) believed that HIV is transmitted primarily by behaviour that can be changed. Educational programmes designed to influence appropriate behaviour can therefore successfully control the spread of HIV/AIDS in South Africa.

According to Johan (2016:23), education planners underestimate Life Orientation, and the role it plays in shaping the learners' future. In this regard, even though Life Orientation is not an examinable subject, it binds education and life together. Therefore, if taught well, it is expected that the youth will change their behaviour, and adapt proper ways of preventing HIV/AIDS.

Life Orientation prepares the youth to face all the challenges they may meet in life with skills like self-awareness, decision-making skills and assertiveness (DoE 2016:34). Students acquire suitable habits to start, sustain and end a relationship. Life orientation addresses the reality of peer pressure, dynamics of relationships, and substance abuse, sexuality and STIs including HIV/AIDS.

According to Vethe (2012:40), Life Orientation questions the relevancy of the youth in the HIV/AIDS pandemic, and how they can assist in halting the spread of the pandemic. There is prerequisite for the youth to acquire HIV/AIDS knowledge such that when they experiment with risky behaviours, enough information is at their disposal (Gayene 2016:48). It is through Life Orientation that learners gain facts about HIV/AIDS, that is, how to access HIV/AIDS information about its prevention and treatment.

## **2.11 HEALTH BEHAVIOUR**

Corner and Norman (2017:23) defined health behaviour as any activity done for improving health wellbeing. Therefore, health behaviour is behaviour that does not bring harm to an individual. It comprises any actions taken by individuals to improve their health.

Behavioural change interventions are there to reduce behaviours that increase the chances of spreading the disease to others by promoting condoms, less partners, abstaining, and delaying intimate activities. Lack of HIV vaccine means we must heavily rely on behaviour change for HIV prevention. It is the only most effective strategy available.

### **2.11.1 Behavioural change interventions**

According to UNAIDS (2015:14), behavioural change in human beings aims to strengthen behaviours by addressing knowledge, attitudes, skills, and social norms using a mixture of tactical methods and procedures. The programmes are aimed at increasing youth's commitment to HIV prevention gears, condoms usage, voluntary male circumcision, voluntary testing for early treatment, and antiretroviral drugs-based approaches to prevention (UNIADS 2018:34).

Early deteriorations in HIV occurrence in SSA were linked to changes in behaviour (UNAIDS 2018:37). Active behaviour approaches which involve respondents in practical prevention activities such as risk assessment, practicing condom use, and role-playing prevention have shown to be more effective than passive approaches (UNIADS 2018:37). Furthermore, the author stated that approaches that strengthen self-efficacy are more effective than those limited to pushing for responsible behaviour.

The youth should know different methods of contraception, and a deeper understanding of the virus. Correct knowledge on how to protect themselves from the virus is crucial. This is also supported by Karim and Karim (2010:43) who stated that there was a strong consensus in the 1991 National Institutes of Health Workshop in the United States of America, that individual behaviour change can occur if someone:

- Has a positive will to do it
- Does not have restrictions to perform it
- Notices more advantages to performing the behaviour than disadvantages
- Is capable of performing the behaviour

## **2.12 THEORETICAL FRAMEWORK**

For researchers to understand HIV-risky behaviour, there is need to apply behaviour change theories, in this case, the AIDS Risk Reduction Model of Catania, Kegeles and Coates (1990) was applied in this research. The researcher believes that this theory is relevant in understanding the young people's behaviour.

According to Webb (1997:45), education on its own is not enough to sustain change. Education is only one of the major determinants of behavioural change. Most people are now aware of HIV/AIDS. but dozens are still dying every day. The million-dollar question is why are people, including the youth, not changing their behaviour towards HIV/AIDS? We can only conquer this pandemic if we manage to alter grassroots behaviour towards HIV/AIDS.

To change people's behaviour, there is need to analyse theories that look at behaviour change. Theories help us understand why people do what they do, and behave the way they behave. This will make it easier to help individuals, groups or communities improve their behaviours. Theories are needed to provide serious interventions. They provide a map on what to consider when designing, implementing, and evaluating policies. They help in analysing why certain students are changing while others are not. They also help in supplying information that is necessary for students to change. Theories explain why an intervention is necessary, how to intervene, and how to evaluate success.

Janse Van Rensburg, Poggenpoel and Myburgh (2015:18) define a theory as a conceptual framework that explains certain occurrences or phenomena. Theories provide a focal point, by signifying the information we need. It makes the evidence more manageable, thus keeping us from drowning from too much information. Collins and Stockton (2018:6) summarise the role of theory in research as that which makes things that were hidden visible. This study used the AIDS Risk Reduction Model (ARRM). It provides an outline in terms of people's behaviour and the transmission of HIV/AIDS.

### **2.12.1 Aids Risk Reduction Model (ARRM)**

This model assumes that transformation is a process which takes time. It just does not happen there and then. It believes change takes place in stages (Swanepoel 2012:45). This model includes other elements of the health belief model like self-efficacy. The model states that individuals will go through the following stages:

#### **STAGE 1: Recognition and labelling**

For people to label their actions as risk, these three elements are essential;

- Knowledge on transmission and prevention
- Perceiving themselves as susceptible to infection
- Believing that being infected with HIV is undesirable.

#### **STAGE 2: Commitment to change**

Hypothesised influences:

- Are the costs less and more benefits
- Self -efficacy
- Group norms and social support.

The second stage is about commitment. In this stage, the person must decide to change his/her behaviour and increase safer behaviour (Van Dyk 2012:78). During this stage, there is a lot of influences, like how the person perceive social costs of changing behaviour, effectiveness, self-efficacy, and normative beliefs.

STAGE 3: Taking action. The third stage comprises of acting. This involves three phases. People must seek information on how to modify their behaviour. They then seek remedies from professionals and others. Lastly, they enact solutions to their behaviour. Depending on the individual, phases can take place in this order or some may be skipped.

- Social networks
- How to solve problems and solutions
- Level of self-esteem
- Resource available
- Communication
- Partners behaviours

This theory is suitable for health promotion and health behaviour, and especially for this research, because it gives the researcher a foundation to design interventions for individuals. The Aids Risk Reduction Model makes the intervention designers understand that it is not a one-day change, it takes time. The stages help them to evaluate on which stage one is at, and if the programmes are working. This theory also highlights what needs to be done to promote healthy behaviours. Once the researchers know what it takes for people to change, it will be easier to plan and organize interventions that will change these behaviours.

In this current study, research is carried out to assess whether young people are changing their risky behaviour a while after learning about HIV/AIDS in high school according to the ARRM theory mentioned above. This understanding would enable school policymakers to assess which behaviours to target, or which attitudes to alter at a young age.



### 2.12.2 Perceived factors underlying HIV/AIDS risk reduction behaviour

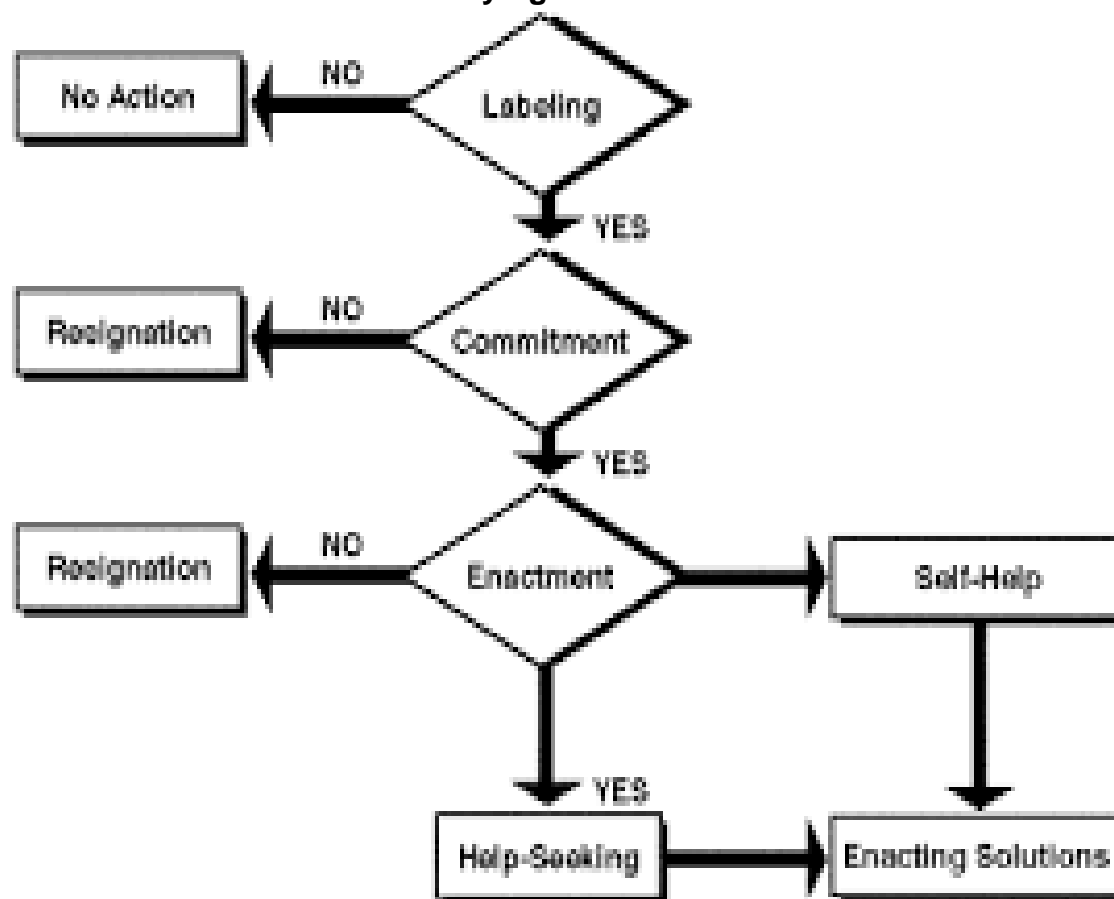


Figure 2.1: Towards an understating of risky behaviour: An AIDS Risk Reduction Model (ARRM).

Source: Catania, Kegeles and Coates (1990).

The ARRM model above suggests that if individuals label their behaviour as not risk, and hold the belief that the disease will not infect them, then individuals will not take action. This is shown by the arrow pointing to no action. If one is labelled to be at risk, one will commit to taking action (commitment), only if the action is not going to be costly to them. Commitment reflects all the motivational factors that influence specific behaviour (Ajzen 1991:181) cited by (Van Dyk 2010:230). Overall, commitment is how far people are willing to try, or effort exerted to put into performing a behaviour. People are likely to change if the benefits of the change outweigh the cost. If they have self-efficacy, they can afford the cost and enjoyment after the commitment they will enact or put it into action. If not, they will resign and choose not to do anything. This is shown by the arrow pointing to resignation.

Normally, when people have considered their behaviour to be risk, and have decided to change, they will seek help or self-help, and find solutions to their behaviour. If they do not want to act or say no to enactment, they will resign and do nothing about their behaviour. This is shown by an arrow pointing to resignation. Those who said yes to enactment will seek help and seek enactment solutions.

During the labelling stage, the question asked is; is your behaviour leading you to HIV/AIDS infection? During the commitment stage the question will be, do you expect to do what is risk in the next four weeks? Lastly, in the enactment stage, the question is; what have you done? The important thing to take note of is that this theory is unidirectional, meaning can be reversed. For example, even if you did not label your behaviour as risky, later people can, and decide to commit to behaviour change.

Catina et al. (1990:56) emphasised that the goal of the ARRM is to understand the progression of people over stages of change. The researcher went further to explain that constructs like HIV/AIDS knowledge and problem perception, a belief that they can or cannot get the HIV/AIDS infection are important in their contribution to the change process, especially in the labelling stage. Within the commitment stage, the important constructs are cost and benefits, self-efficacy and information, and social effects on a pledge. The last stage of action consists of societal norms and problem-solving adoptions, effects on help-seeking procedures, help that helps, and enacting solutions.

The theory tries to eliminate or pinpoint the stages of risky behaviours. However, Prager (2012:34) believes that behavioural theories do not bring behaviour change, nor guess exact behaviour changes, but they are there to assist policymakers just as a guideline on what to look for.

## **2.13 IMPLICATIONS OF FINDINGS**

Efforts to guard youth from HIV/AIDS, to enact sound procedures and the best curriculum will require explicit information about their knowledge of HIV/AIDS. Youths attitude towards the disease, HIV/AIDS prevention, their perception of HIV/AIDS, intimate behaviour, HIV/AIDS risk management, and adherence to safe practices will assist greatly in shielding them from the disease.

This research suggests tailor-made ideas that will suit the students we have today. It is the onus of this research to find ways to reach out to these students so that their behaviours and attitudes are changed for a better tomorrow. It is possible to have an HIV/AIDS-free generation. There is therefore need for well-planned education systems within protective environments (Bankole et al. 2007:65; UNAIDS 2018:34).

There are huge volumes of different publications on HIV/AIDS. However, there is still not enough information to guide scientists on how they can prevent HIV incidence amid young people (Harrison et al. 2010:54). It is important that the programmes should be based on understanding the youth's risk sexual behaviour, and prevention strategies should be focused on these risk factors. This research aims to understand the reasons underlying youth risky behaviour, and to use the research findings as a baseline to inform those implementing prevention programmes of what to focus on. Van Dyk (2012:66) advises that HIV/AIDS education must balance everything, that is skills, values and attitudes and not concentrate on dishing knowledge only for it to be fruitful.

## **2.14 CONCLUSION**

In this chapter, a brief introduction to relevant literature was given. The background to HIV/AIDS and the relevant themes that developed from the literature review were also discussed. The various findings were discussed and gaps were identified. Research design and methodology are deliberated in the succeeding chapter.

## **CHAPTER 3**

### **RESEARCH DESIGN AND METHOD**

#### **3.1 INTRODUCTION**

Chapter 2 reviewed literature on the effects of Life Orientation on HIV/AIDS knowledge, attitudes and behaviours amongst youth, and the ARRM theory. This section outlines the investigation design and methods applied. Details of population, sample and sampling methods are also elaborated. The procedures followed for gathering of data and analysis are described. The steps employed to ensure validity and reliability are explained. Ethical principles and considerations applied in the research are described.

#### **3.2 RESEARCH DESIGN**

Aiming for the scientific study to yield excellent precise findings, the correct research design should be applied (Polit & Beck 2017:164). For Babbie (2012:30), a research design is a logical, structured, complete strategy and approach that is applied to assimilate different aspects of the study. The application of research design guarantees effective data gathering and analysis (Bygrave & Zacharakis 2011:21; Creswell 2014:67). The study used a quantitative descriptive cross-sectional design to examine students' attitudes, behaviours and knowledge about HIV/AIDS following the facilitation of Life Orientation subject

##### **3.2.1 Quantitative Research Approach**

Quantitative research allows the researcher to apply objective and detailed measurements of variables (Denzin & Lincoln 2011:7; Maxwell 2013:28). This study used a quantitative research approach because numerical data were collected statistically and systematically to describe a change of mind-set towards HIV/AIDS as an outcome of the Life Orientation programme. It is in this research's interest to quantify attitudes, knowledge and behaviours of college students around HIV/AIDS following the implementation of the Life Orientation programme in high schools. The

study determined the cause and effect of variables utilizing numerical scales and statistical analysis.

### **3.2.2 Descriptive study**

The descriptive study gives a clearer representation of what is happening by quantifying the variables that are being measured (Babbie 2012:34). In this study, the descriptive design sought to provide a relationship between Life Orientation and the youths' attitude, knowledge and behaviour by use of numbers, tables and graphs. Descriptive numerical data was used to describe the information that was collected from college youths. This is in terms of their knowledge, attitude, behaviour and perceptions towards Life Orientation. Findings were recorded so that they could be used for further curriculum development and youth health promotion developments.

### **3.2.3 Cross-sectional research design**

Information was gathered by the use of a questionnaire, and this was done at the same time for all respondents (Babbie 2016:84). For Polit and Beck (2017:168), the cross-sectional research design is suitable for unfolding the current position of the phenomena at an instant. The current investigation used questionnaires to measure and outline the effects of Life Orientation on the attitudes, behaviours and knowledge on youth.

Data regarding current effects of Life Orientation on HIV /AIDS were obtained from students at Randburg TVET College. In this regard, the cross-sectional design helped with the extraction of information from the respondents. The researchers aim was to find out how youth are eventually using this knowledge imparted to them during their Life Orientation lessons to change their attitude and behaviour towards HIV/AIDS. In addition, the factors that are putting youth at risk of HIV/AIDS were also examined.

## **3.3 RESEARCH METHOD**

Babbie (2016:58) defines methods as the means and values that are used for doing scientific or academic research. Furthermore, Neuman (2012:30) states that research methodology explains the purpose why a certain method is deployed. Additionally, Clough and Nutbrown (2012:34) emphasis that a research methodology provides

clarity on how enquiry questions are pronounced. Therefore, research methodology is a systematized and scientific format of the methods applied to a study field.

### **3.3.1 Setting**

Setting is the actual site and the place where the study respondents are situated and where the research is conducted (Polit & Beck 2017:510). The environment affects the type of data collected, and the way results are viewed. The investigation was carried out in Randburg City. In this case, the set is a TVET College in South Africa. It is normally in the colleges where students as young adults, start experimenting more with sex, and start behaving in certain sexual ways. The campus is situated in Gauteng Province in South Africa, with 12.7 million people. Gauteng Province covers 18,127 square kilometers. The capital city of Gauteng Province is Johannesburg. Randburg is the main city in the Northern Suburbs of Johannesburg with a population of around 337 053 people.

The TVET is a registered technical vocational college affiliated to Umalusi, and under the administration of the Department of Higher Education and Training (DHET). Most students admitted at this college are from Further Education Training (FET) colleges and high schools. The college offers vocational education to students who have studied LO at secondary schools.

### **3.3.2 Population and sample**

#### **3.3.2.1 *Population***

A group of people or elements with features and abilities which the study is looking for is called a population (Babbie 2012:45; Creswell 2014:45). For this study, the population was drawn from all level one students at a TVET college in Randburg. These students have recently studied Life Orientation and HIV/AIDS, and are therefore the right people to respond to questions asked. The population of level one students at Randburg TVET College in Gauteng Province was 222 in 2019. This included all level one students from 18 to 25 years of age, excluding all married level one students since married people do not use protection most of the time as they trust their partners, and could be trying to have children.

### **3.3.2.2      *Target population.***

Polit and Beck (2017:306) describe target population as collection of all elements under study, the population that the investigation requires to make conclusions of the findings (Babbie 2016:58). Currently, target population comprises of Randburg TVET College level one students that fit the inclusion and exclusion criteria discussed above.

### **3.3.2.3      *Accessible population***

The accessible population that met eligibility criteria was the Randburg TVET College level one students who were not married at the time. According to Polit and Beck (2017:306), the accessible population is that populace that the researcher can choose a sample from.

### **3.3.2.4      *Sample***

A sample is a part, or piece that shows the quality or character of the whole population (Babbie 2016:45; Polit & Beck 2017:255). The representative sample must have all the features and criteria of research population (Polit & Beck 2017:255). The sample for the current study consisted of all level one students who were single and have done Life Orientation. The purpose of a sample is to avoid bias as it is impractical to try and study the whole population.

### **3.3.2.5      *Sampling method and sampling technique***

Sampling is the technique used to choose and collect the subgroup which represents the whole population (Babbie 2012:67). Rewards of using sampling remain that it reduces costs, and information is collected faster than measuring everyone in the population. The study used simple random sampling to get a sample of TVET college students.

#### **3.3.2.5.1      *Simple Random Sampling***

Probability Simple random sampling was applied to choose a sample of students at the TVET college. According to Polit and Beck (2017:255), this is meant to give everyone a chance to participate. The list of first-level students was obtained from Randburg TVET College management, to ensure that nobody was omitted. All level one students on the list were invited to be study respondents.

Sample size determination was done with the use of Raosoft calculator. The targeted population of level 1 students was 222 giving a sample size of 141 as per the calculations of the Raosoft calculator with 5% margin of error, and a 95% confidence interval (Polit & Beck 2017:255). Raosoft formula was deployed to calculate the sample given below:

$$SS = \frac{Z^2 * (p) * (1-p)}{C^2}$$

Where: Z= is the confidence value of 95%, 1.96 is the Z value in this study deployed to calculate the sample size

P= .5 sample size desired

C=confidence interval (.5 was used as margin of error)

Therefore, the sample was calculated below:

$$n = \frac{z^2 p(1-p)}{c^2}$$

$$n = \frac{1.960^2 0.5(1-0.5)}{0.05^2}$$

$$n=384.16$$

$$SS = \frac{384.16}{1 + \left( \frac{384.16-1}{222} \right)}$$

Therefore: SS=141

$$n = Z \times Z \{ p(1-p) / (c \times c) \}$$

$$n = 1.960 \times 1.960 \{ 0.5(1-0.5) / (0.05 \times 0.05) \} = 384.16$$

$$ss = 384.16 / 1 + (384.16 / 222) = 141.47 \text{ roughly } = 141$$

Total sample size =141



### **3.3.3 Eligibility criteria**

Polit and Beck (2012:726) indicate that these are precise characteristics that one looks for, from the elements being measured for them to be included in a study.

#### **3.3.3.1        *Inclusion criteria***

- All college students that have studied Life Orientation.
- The student must be single, and they must be in their first year.
- Students who gave their consent.

#### **3.3.3.2 Exclusion criteria**

- This criteria pertained to students that did not study Life Orientation.
- Students who did Life Orientation but are married.
- Students that are not in the first year.

### **3.4 DATA COLLECTION**

A questionnaire was administered to collect data from the TVET college students. According to Burns and Groove (2017:230), data collection is a step by step logic process of gathering and collecting appropriate information for the study. This refers to the actual means data is collected. Data collection methods are influenced by data collection strategies. For reliability purposes, a test re-test method was used. This involves the correlating of one scale on the same group of people at different times, with intervals between a week and a year. The advantage is that only one scale is used, which means that unreliability caused by two different sets of scales is eliminated. The disadvantage is that it creates a high level of reliability if respondents remember their previous responses. Respondents' attitudes may change during the second test (Babbie 2012:48).

### **3.4.1 Development and testing of the data collection instrument**

A questionnaire allows the investigator to structure and formulate the data collection process (Gray, Grove & Sutherland 2017:53). In this study, the questionnaire was carefully planned, and clear, open and closed questions were used. The questionnaire was developed in English because it is the language that is used to teach students at schools and colleges. Likert agreement scales were structured based on an all-embracing literature review. Some of the questionnaire items were adopted from experts to increase their reliability. Constructs from the ARRM were incorporated into the questionnaire items to address research objectives. All items in the instrument were addressing the research variables and objectives. Questions on knowledge sought to quantify students' insight regarding HIV/AIDS transmissions and preventative measures. The behaviour questions aimed to identify students' sexual conduct in relation to HIV/AIDS prevention.

The knowledge questionnaire was adopted from Carey and Schroder (2002), which is based on the development and psychometric evaluation of the brief HIV knowledge questionnaire. This instrument provides an understanding of HIV/AIDS questions that one needs to include in a questionnaire. Another questionnaire used in the study was adopted from Froman, Owen and Daisy (1992) which measures the students' behaviour towards HIV/AIDS prevention. In terms of the youth's attitudes towards HIV/AIDS, development of a measure of attitudes towards persons with AIDS questionnaire was used (Froman et al 1992). Perceptions on Life Orientation and HIV/AIDS were used to measure the respondents' perceptions towards life orientation.

#### **3.4.1.1 *Characteristics of the data collection instrument***

The closed-ended questions were used to measure students' attitude, knowledge, behaviour and Life Orientation perception. The 5 –point Likert scale was deployed to quantify knowledge, attitude, behaviour and perceptions of respondents regarding HIV/AIDS and Life Orientation programme (Brink et al 2013:159). To safeguard user-friendliness and clarity of items, the instrument was divided into the following 5 sections:

**Table 3.1: Divisions and structure of the questionnaires**

Sections	Items covered	Number of Items
1	Background information	6
2	HIV/AIDS Knowledge.	15
3	HIV/AIDS Attitude	10
4	AIDS Education Prevention.	10
5	Perceptions on life orientation and HIV/AIDS	18

The first section contained socio-demographic details (6 items), that is, respondents' age, gender, education level, language, and marital status.

This second section consisted of 15-closed questions on HIV/AIDS knowledge scale recorded with True, False or Don't know. It focused on accumulating data on the students' HIV/AIDS knowledge. The knowledge scale was adopted and adapted from an instrument developed by Carey and Schroder (2002). This section contained basic information regarding the mode of transmission and strategies that can be applied to prevent infection.

The third section consisted of 10-items of closed questions seeking to gather information about the students' attitude around HIV/AIDS. The attitude scale is based on the development of a rating of attitudes around persons with AIDS retrieved from Froman et al (1992:149–152). The questionnaire is made up of statements which are either empathetic or avoidant towards people infected with HIV /AIDS. Froman et al (1992:150) empathetic items are described as therapeutic positive opinions towards HIV/AIDS, while avoidant scales represent stigmatizing negative views. A higher score on empathetic items indicates acceptance attitude, while a higher score on avoidant scores shows an intolerant attitude towards people infected (Froman et al 1992: 151). The scale was True, False or Don't know.

The fourth section was retrieved from Froman et al (1992: 172-182) and made up of ten items pertaining to HIV/AIDS universal precautions and preventative strategies. A Likert scale was used for measuring youths' preventative measures towards HIV and AIDS. A five-point Likert scale, with strongly disagree, neither, disagree, agree, and strongly agree was used.

This section was developed by the researcher with the support of the statistician and the supervisor. It consisted of 18 items of closed questions measuring students' perceptions towards Life Orientation HIV/AIDS programme, and strategies being used to teach students about sex and HIV/AIDS in schools. Items constituting this section were obtained from the LO programme. A five-point Likert scale was used.

### **3.4.2 Pilot study**

Piloting of the study was carried out to identify if there were complications in research design such as ambiguous and very long questions (Burns & Groove 2009:58). According to Polit and Beck (2017:304), the objective of a pilot study is to test the feasibility of the study and correct all mishaps before the actual study is undertaken. The questionnaire was piloted on twenty students with the same characteristics from another TVET college. These respondents were not used in the main study. The reasons being to try and lessen high levels of reliability if respondents remember their previous responses. Respondents were asked to comment on language, wording, appropriateness of vocabulary, length of the questionnaire and issues that are not clear. Feedback collected from the pilot study was carefully analysed and used to modify and check if there was any repetition, ambiguous question, and to check for the turnaround time to fill in the instrument.

### **3.4.3 Data collection process**

Appointments were arranged with the college, the researcher visited the college to distribute the questionnaires to the students and the purpose of the research was explained. It was elaborated that participation was voluntary, and it was one's choice not to participate if they did not feel comfortable in doing so. Questionnaires were collected and send to the statistician for analysis. There was privacy and confidentiality as no names were asked for on the questionnaire, so that there was nothing that could link respondents to their answers. The respondents were further told that the results were gathered for the thesis purposes only, and that their names would not be published. The questionnaire took about 20 to 30 minutes to complete, and the received data was electronically saved, and password protected.

### **3.5 DATA MANAGEMENT AND ANALYSIS**

This section outlines the process which was followed to manage and analyse data from the college students. Data management and analysis is the arrangement and organisation of evidence into usable information. It is a way of organising data into small topics and identifying relevant patterns to denote meaning, gain understanding, and develop empirical knowledge (Babbie 2012:56).

#### **3.5.1 Data management**

All questionnaires collected from the respondents were numbered in sequence for easy use. Data were edited, coded and entered into SPSS version 25. Questionnaires were stored and locked in a safe place. Electronic data was saved, and password protected on the researcher's computer. Hard copies were kept in a locked and safe place

#### **3.5.2 Data analysis**

According to Babbie (2016:506), data analysis comprises techniques used to translate information into mathematical form so that it can be analysed. In this study, the information was captured and checked for completeness. Information gathered in this research was coded and captured by means of the Statistical Package for the Social Science (SPSS version 25) (IBM Corp 2019). Both descriptive and inferential statistics were used as follows:

##### **3.5.2.1 *Descriptive statistics***

These are procedures that are used to organise, summarise, and visualise quantitative data. These statistics help to identify patterns in the data. However, it is dangerous to regard statistics being conclusive of some argument or viewpoint. This is because statistics can be abused to support the researchers own beliefs and values (Babbie 2004:58).

Descriptive statistics were used to give a summary and define research questions and objectives. A simple descriptive investigation of the following research questionnaire items was conducted: 1) AIDS Attitude Scale; 2) HIV knowledge questionnaire; 3) Safe sex behaviour questionnaire and 4) Life Orientation HIV/AIDS components.

Descriptive tests were conducted to calculate the mean, median and mode (central tendencies) and range and standard deviation of answers in all sections of questionnaires. The information was presented in tables.

### **3.5.2.2      *Inferential statistics***

Inferential statistics were also used in order to make interpretations about TVET college students based on the data obtained from respondents (Polit & Beck 2017:400). The t-test was done to test the significance of the variance between the group means. A chi-square test was used to test the relationship between knowledge, attitude and behaviour (Sullivan 2012:152).

### **3.5.2.3      *Spearman's Rank Correlation statistics***

The study applied Spearman 's rank-order correlation coefficient (RHO) of knowledge, attitude, behaviour and LO perceptions with selected demographic characteristics of the study respondents. The correlation is determined by the R rank value which is either +1 or -1. According to Spearman RHO, a positive correlation is +1 and negative correlation is -1 (Polit & Beck 2017:415-416). The two variables used in this research were dependent and independent variables. Independent and dependent variables were utilized to summarise the strength and direction of the relationships.

## **3.6      VALIDITY AND RELIABILITY OF THE STUDY**

### **3.6.1      Validity**

Validity discusses the degree to which an experimental tool quantify precisely the phenomena it is projected to quantify (Babbie 2012:143). Polit and Beck (2017:65) stated that to ensure reliability and validity in quantitative research, four crucial criteria to formalise rigour must be followed for quantitative internal validity, external validity, reliability and objectivity. Pre-Test research was completed to establish instruments' reliability and validity, that is, its format correctness, content soundness, and time of answering the questionnaire.

### **3.6.1.1      *Internal validity***

Internal validity refers to the level to which information that was gathered from dependent can be attributed to independent variables (Burns & Grove 2009:333).

In the current study, the researcher ensured that there was internal validity by adapting a questionnaire from experts that have used it before, and making sure that it represents reality. It was also controlled by making sure that only single students were used, and not married students as married students' decisions could be influenced by marital decisions, especially family planning.

### **3.6.1.2      *External validity***

Polit and Beck (2017:234) reiterate that a quantitative study is deemed sound if results can be generalised across populations, settings and different periods. This is to make sure that the results will be true for other subjects, times and circumstances. The selection was done in such a way that only respondents who had done Life Orientation as a subject at school were selected. The research dealt with issues of 'observer effects' by assuring the respondents that they would remain anonymous since no names were needed on the questionnaire, and that issues of confidentiality would be upheld.

### **3.6.1.3      *Face validity***

Face validity is how much the research tool resembles the expected description in terms of meeting the research objectives (Babbie 2012:63). To ensure face validity, the researcher, the statistician and the supervisor judged the instrument, evaluating whether the questionnaire was measuring target constructs. Therefore, their expertise was used to judge the face validity of the tool.

### **3.6.1.4      *Content validity***

The relevance, comprehensiveness, and balance of the questionnaire were also determined to ensure the content validity (Polit & Beck 2017:310). According to Babbie (2012:67), there should be a consistency between the research instrument and the phenomena which are being measured. Experts in the field of HIV /AIDS knowledge, attitude and behaviour and Life Orientation were approached. The relevance,

comprehensiveness, and balance of the questionnaire were also determined (Polit & Beck 2017:310). All aspects of the questionnaire addressed the research objectives.

#### **3.6.1.5      *Reliability***

Dependability, also known as reliability, is the ability of the tool to yield identical results if run repeatedly to the same respondents (Polit & Beck 2017:304). It does not mean that the results must not change or must remain the same, but it means if circumstances have changed, the measuring instrument must also reflect this. The questionnaire was adapted from experts in the subject. These questionnaires were also used by other researchers in their studies. Bowen, Govender and Edwards (2015:1) in their study used Casey and Schroder's 18 items HIV knowledge questionnaire. According to Bowen et al. (2015:3), the questionnaire provided acceptable construct rationality and dependability, therefore, could be sufficiently used to quantify HIV/AIDS knowledge.

#### **3.6.1.6      *Internal consistency***

To ensure internal consistency, the researcher included a full range of items to be measured (Gibbs 2007:100). Work colleagues who were knowledgeable in the subject were consulted to check and verify the appropriateness of the items in the questionnaire. Internal consistency was determined by the use of Cronbach alpha to ensure that the questionnaires were measuring the effects of Life Orientation on HIV/AIDS knowledge, attitude and behaviour (Polit & Beck 2017:310). The Cronbach's alpha coefficient, developed by Lee in 1951, is a measuring tool that researchers use to assess the reliability or internal consistency of a questionnaire (Goforth 2015:2). Internal consistency exists in degrees from 1.00, which indicates perfect reliability, to 0.00 indicating no reliability. Value 1.00 is not obtained in any research as any research has some room for error. According to Polit and Beck (2017:375), new instruments reliability of 0.70 is tolerable and the maximum is 0.9.

In this research, the researcher ensured that the Cronbach alpha of the instrument measured above 0.70 (Polit & Beck 2017:310). This was maintained by adding the amount of questions on the questionnaire, and this increased Cronbach's alpha. Therefore, more questions and big sample size will give a high Cronbach alpha. As cronbach's alpha increases, correlation increases. The coefficient was 0.87 for the



knowledge items in the questionnaire. It was 0.81 for the attitude items, for the risky behaviour it was 0.92 rounded off to 0.9, and for the HIV/AIDS and Life Orientation perceptions, it was 0.93 rounded off to 0.9, showing relatively high-reliability coefficient. Questions or items that were repetitive, ambiguous, or otherwise were either rephrased, or deleted. Additional points were added. The questions that were adopted are the ones used in the questionnaire attached as annexure E.

**Table 3.2: Reliability levels of the 5 questionnaire items**

ITEMS	CRONBACH'S ALPHA SCALE	NUMBER OF ITEMS
Knowledge Items	0.87	15
Attitude	0.81	10
Behaviour	0.9	10
Life orientation perception	0.9	18

### **3.6.1.7 Inter-rater**

This is an appraisal of two viewers or data collectors and the degree of agreement among raters. It is the score of the consistency in ratings given by the same person across multiple instances (Burns & Grove 2009:333). Same questionnaire was used for data collection, which used the same structure for all respondents.

### **3.6.1.8 Test-retest**

For reliability purposes, a test-retest method was used. It involved the correlating of one scale on the same group of people at different times, with intervals of between a week and a year. The advantage is that only one scale is used, which means that unreliability caused by two different sets of scales is eliminated. The disadvantages

are that it creates a high level of reliability if respondents remember their previous responses. Respondents' attitudes may change during the course of the second test (Babbie 2012:45). The researcher sought permission from the college, and through appointments went and piloted 20 questionnaires to the students. The results enabled the researcher to identify the mistakes, ambiguous questions, repeated questions and these were rectified. Questions were also reduced so that the questionnaire would take 20 to 30 minutes, and not more than 30 minutes. The questionnaire's language was edited for respondents to easily understand.

### **3.7 ETHICAL CONSIDERATIONS**

Ethics are norms and values society uses to regulate behaviour (Babbie 2012:36). One of the responsibilities that the researcher has towards the people whom they research on is that they must not harm them in any way. The researcher followed the ethical procedures stipulated by UNISA.

#### **3.7.1 Permission to conduct the study**

The researcher obtained ethical clearance from the Research Ethics Committee of the Department of Health Studies, University of South Africa Research and Ethics (Annexure A). Permission from the Department of Higher Education Research Ethics Committee was granted (Annexure B). Authorization was obtained from the management of Randburg TVET College (Annexure C). Additionally, managers of TVET college were informed before questionnaires were distributed to students. Information about the study was explained and respondents were requested to sign informed consent forms. All the principles of privacy, confidentiality, and anonymity were followed.

#### **3.7.2 Respondents Rights**

According to Polit and Beck (2014:84), research respondents should have absolute rights to agree and make an informed choice whether they want to participate or not.

##### **3.7.2.1 *The Principle of Respect for Persons***

Throughout this study, all respondents were respected by seeking their consent. The authority of the participant to decide to participate or refuse was emphasised. To

ensure the respondents' privacy, the researcher made sure that she was not being intrusive in the respondents' lives. Everything was confidential, and there was justice which was ensured by not asking respondents' names at all. Assurance was given that no names would be published. Collected data was saved electronically, and the password saved. The college students in this study were reassured that unauthorized individuals will not access the information they have provided to the investigator.

#### **3.7.2.2      *The Principle of Informed Consent***

Comprehensive information was given to respondents to make knowledgeable decision concerning participation in the study (Polit & Beck 2014:87). Subsequently, students were asked to put their signature on a consent form. According to Brink et al. (2012:38), a consent form helps to safeguard respondents from destruction, and to formalise the freedom of participation. Respondents were provided with an information letter which outlined research aims, objectives, possible outcomes and conditions of participation. Respondents were awarded the right to ask questions.

#### **3.7.2.3      *The Principle of Justice***

Anonymity, confidentiality and privacy of the respondents were ensured. Names were not asked for on the questionnaires to enhance anonymity. Codes were used on the questionnaires. Reassurance was given to the respondents that the study information will only be used for this study.

#### **3.7.2.4      *The Principle of Beneficence***

Polit and Beck (2012:720) state that the importance of the ethical principle of beneficence is to protect respondents from harm. The researcher made sure respondents were protected from any form of physiological, emotional, spiritual or financial harm. The questionnaires were distributed by the researcher. This is a way to ensure that respondents did not pay money to access the questionnaires. The language used in the questionnaires was clear and easy to understand. Respondents were also advised to inform the principal researcher about any psychological emotions triggered by responding to questions related to HIV/AIDS.

### **3.8 CONCLUSION**

The chapter deliberated on the collection and analysis of data. It gives the outline of a descriptive cross-sectional design. The chapter explained in detail how data was collected and captured. Measures implemented to ensure study quality are presented. Ethical considerations applied in this research are also discussed. In Chapter 4, data will be translated into meaningful statistics.

## **CHAPTER 4**

### **DATA ANALYSIS, PRESENTATION AND INTERPRETATION OF THE RESULTS**

#### **4.1 INTRODUCTION**

This chapter presents the results of the data obtained from 101 respondents. The focus of this chapter is based on main results that were obtained from the research. The chapter commences with the introduction of data management and analysis, and next is the description of results. The presentation of the results is done according to the following themes:

- College students' demographics,
- Description of students' knowledge of HIV/AIDS
- Attitudes of college students towards HIV/AIDS,
- Risky behaviours of college students regarding HIV/AIDS
- Relationship between Life Orientation programme and HIV/AIDS knowledge, attitudes and behaviours amongst college students

The purpose of this research was to investigate the effects of Life Orientation programme on HIV/AIDS knowledge, attitudes and behaviours amongst college students in Randburg.

The objectives of this study were:

- To determine HIV/AIDS knowledge amongst college students in Randburg
- To determine HIV/AIDS attitudes among college students in Randburg
- To investigate sexual behaviours with regards to HIV/AIDS among college students in Randburg
- To determine the relationship between Life Orientation programme and HIV/AIDS knowledge, attitudes and behaviours amongst college students in Randburg.

## **4.2 DATA MANAGEMENT AND ANALYSIS**

Of the 141 questionnaires distributed to the college students, 131 were returned. The researcher and statistician checked for completeness of data, cleaned the data and remained with 101 usable questionnaires. Data were analysed using IBM SPSS version 25, at a 95% confidence interval, and a 5% significance level for the inferential statistics.

Descriptive statistics analysed the demographic features of the respondents. The results which emerged from this analysis are described in percentages and tables. Inferential statistics draw conclusions from the population under study at large. A chi-square test analysed the data collected, and deductions were then drawn on the findings

Spearman's correlation coefficient measured the association amongst these variables and Life Orientation. Multivariate data analysis was used to pronounce the test results relationships amongst HIV/AIDS knowledge, attitude, risky behaviour and Life Orientation. The following section provides characteristics of the respondents' gender.

## **4.3 RESEARCH RESULTS**

This section presents the evidence. The results are accessible in tables for easy interpretation and clarity.

### **4.3.1 Demographic characteristics of respondents**

Demographics that were included in this research were gender, race, marital status, home language, age and field of study. Statistical analysis was carried out for 101 respondents. A summary of the demographics of the respondents is given below in Table 4.1.

**Table 4.1: Demographic characteristics of the respondents (n=101)**

<b>Characteristics</b>		<b>Frequency ( n)</b>	<b>Percentage (%)</b>
<b>Gender</b>			
	Male	51	50.5
	Female	50	49.5
<b>Age</b>			
	18	19	18.8
	19	13	12.9
	20	14	13.9
	21	9	8.9
	22	11	10.9
	23	11	10.9
	24	15	14.9
	25	9	8.9
<b>Study areas</b>			
	Office Administration	13	12.9
	Education and development	4	4.0
	Finance, Economics and Accounting	11	10.9
	Information Technology	10	9.9
	School of utility	14	13.9
	Business studies	23	22.8
	Science	12	11.9
	Tourism	14	13.9
<b>Language</b>			
	Sesotho	6	5.9
	Tswana	3	3.0
	Zulu	23	22.8
	English	10	9.9
	Afrikaans	6	5.9
	Tshivenda	8	7.9
	IsiNdebele	2	2.0
	IsiXhosa	11	10.9
	Xitsonga	6	5.9
	Sepedi	5	5.0
	Other	21	20.8
<b>Race</b>			
	Blacks	82	81.2
	White	6	5.9
	Indian	5	5.0
	Coloured	7	6.9
	Other	1	1.0

#### **4.3.1.1      *Gender***

Table 4.1 indicates that females were 50.5% (n=51), as compared to the males who were 49.5% (n=50) out of the 101 respondents. There was no significant difference noted in this category as females were just slightly more than males.

#### **4.3.1.2      *Marital status of the respondents (n=101)***

In total, 100% (n=101) of the respondents were not married. The sample consisted of 50.5% (n=51) females and 49.5% (n=50) males.

#### **4.3.1.3      *Age of the respondents (n=101)***

The demographic data indicated that different age groups took part in the study. The 18 year olds constituted 18.8% (n=19), followed by 14.9% (n=15) of those who were 24 years of age. Twenty year olds were 13.9% (n=14), followed by 19 year olds who were 12.9% (n=13). Both 22 and 23 year olds scored 10.9% (n=11). The 21- and 25-year olds were 8.9% (n=9).

#### **4.3.1.4      *Demographic study areas of the respondents (n=101)***

The large number of the students as shown in Table 4.1 were studying Business Studies consisting of 22.8% (n=23), followed by Tourism and School of Utility 13.9% (n=14), then Office Administration 12.9% (n=13), Sciences 11.9% (n=12), Finance, Economics and Accounting 10.9% (n=11), Information Technology 9.9% (n=10) and Education at 4% (n=4).

#### **4.3.1.5      *Language characteristics of the respondents (n=101)***

Table 4.1 above shows that Zulu speakers constituted 22.8% (n=23), followed by foreign students and other South Africans that speak languages that were not included in the questionnaire, and therefore fell under others. This constituted 20.8% (n=21) of the sample. Xhosa speaking students were 10.9% (n=11), English 9.9% (n=10), and Tshivenda 7.9% (n=8). Respondents speaking Sesotho, Xitsonga and Afrikaans had



the same figure of 5.9% (n=6). Those speaking Sepedi were 5.0% (n=5), Tswana 3.0% (n=3) and IsiNdebele 2.0% (n=2).

#### **4.3.1.6 Race characteristics of the respondents**

Out of the 101 respondents, 81.2% (n=82) were Blacks, followed by Coloureds who were 6.9% (n=7), then Whites 5.9% (n=6), Indians 5% (n=5) and others 1% (n=1.0).

#### **4.3.2 Knowledge, attitude, behaviour and life orientation perceptions of respondents**

**Table 4.2: Mean scores of knowledge, attitude, behaviour and Life Orientation perceptions (N=101).**

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Knowledge	101	1.20	3.00	1.7809	0.31935
Attitude	101	1.10	2.90	1.9089	0.32744
Behavior	101	0.00	4.00	2.8802	0.83726
Perceptions	101	0.00	3.78	2.7046	0.76590

Table 4.2 shows the mean  $\pm$  standard deviation of the knowledge, attitude, behaviour and perceptions. The respondents' mean was higher on behaviour ( $2.9 \pm 0.8$ ), followed by perceptions ( $2.7 \pm 0.8$ ), then attitude ( $1.9 \pm 0.3$ ) and lastly knowledge with ( $1.7 \pm 0.3$ ).

#### **4.3.3 Respondents score on knowledge, attitude, behaviour and perceptions**

**Table 4.3 Frequency and percentage distribution of respondents score on knowledge, attitude, behaviour and LO perceptions (N=101).**

Variable	Total	Low	High
Knowledge	101	60(59.4%)	41(40.6%%)
Attitude	101	44(43.6%)	57(56.4%)
Behavior	101	44(43.6%)	57(56.4%)
Perceptions	101	44(43.6%)	57(56.4%)

According to Table 4.3 above, most of the respondents scored low on knowledge with 59.4%, high on attitude, behaviour and perceptions with 56.4%. There was lack of significant difference between the high and the low scores on knowledge, attitude, behaviour and perceptions.

#### 4.3.4 Respondents' HIV/AIDS knowledge

Respondents' responses to questions regarding HIV/AIDS knowledge (Table 4.4).

**Table 4.4: Respondents knowledge of HIV/AIDS (N=101)**

HIV/AIDS knowledge items	True	False	Did not Know	P-Value
1. A person can get HIV by sharing a glass of water with someone who has HIV.	4(4%)	91(90.1%)	6(5.9%)	<0.0001
2. Pulling out the penis before a man climaxes/comes keeps a woman from getting HIV during sex	8 (7.9%)	87 (86.1%)	6 (5.9%)	<0.0001
3. A woman can get HIV if she has anal sex with a man.	50 (49.5%)	42 (41.6%)	9 (8.9%)	<0.0001
4. Showering or washing one's genitals/private parts, after sex keeps a person from getting HIV.	8(7.9%)	87(86.1%)	6(5.9%)	<0.0001
5. All pregnant women infected with HIV will have babies born with AIDS.	18(17.8%)	77(76.2%)	6(5.9%)	<0.0001
6. People who have been infected with HIV quickly show serious signs of being infected.	22(21.8%)	71(70.3%)	8(7.9)	<0.0001
7. People are likely to get HIV by deep kissing, putting their tongue in their partner's mouth, if their partner has HIV.	23(22.8%)	66(65.3%)	12(11.9%)	<0.0001

8. There is a female condom that can help decrease a woman's chance of getting HIV.	53(52.5%)	41(40.6%)	7(6.9%)	<0.0001
9. Taking a test for HIV one week after having sex will tell a person if she or he has HIV.	32(31.7%)	60(59.4%)	9(8.9%)	<0.0001
10. Abstinence is the best way to prevent HIV/AIDS.	51(50.5%)	37(36.6%)	13(12.9%)	<0.0001
11. You can cure AIDS by sleeping with a virgin.	11(10.9%)	84(83.2%)	6(5.9%)	<0.0001
12. Drugs and alcohol increase the chances of getting infected with HIV/AIDS.	30(29.7%)	57(56.4%)	14(13.9%)	<0.0001
13. Anti-retroviral treatment has helped to manage HIV and AIDS.	66(65.3%)	29(28.7%)	6(5.9%)	<0.0001
14. You can tell that someone is HIV and AIDS positive just by looking at them.	10(9.9%)	86(85.1%)	5(5.0%)	<0.0001
15. HIV/AIDS is transmitted by sharing needles.	64(63.4%)	32(31.7%)	5(5.0%)	<0.0001

Results report that most of respondents did not believe that one could get HIV by sharing a glass of water with someone who has HIV (90.1%, n=91, p=<0.0001). Additionally, 86.1% (n=87, p=<0.0001) indicated that they did not believe that pulling out the penis before a man reaches climax keeps a woman from getting HIV during sex, 7.9% (n=8, p=<0.0001) believed that it does, and 5.9% (n=6, p=<0.0001) did not know. Almost half of the respondents 49.5% (n=50, p=<0.0001) believed that it is true that a woman can get HIV if she has anal sex with a man, and 41.6% (n=42, p=<0.0001) did not believe so, whilst 8.9% (n=9, p=<0.0001) were not sure of their answer. Majority (86.1%, n=87, p=<0.0001) do not believe that washing one's genitals after sex keeps a person from being infected with HIV, only 7.9% (n=8, p=<0.0001) believe so, and 5.9% (n=6, p=<0.0001) were not sure of their answer.

Seventy-seven (76.2%) felt that it is not true that all pregnant women infected with HIV will have babies born with AIDS, 17.8% (n=18,  $p<0.0001$ ) thought it was true, and 5.9% (n=18,  $p<0.0001$ ) respondents were not sure or did not know. Most respondents 70.3% (n=71,  $p<0.0001$ ) did not believe that people who have been infected with HIV will quickly show serious signs of being infected. Surprisingly, about 21.8% (n=22,  $p<0.0001$ ) believed they can show serious signs immediately, and 7.9% (n=8,  $p<0.0001$ ) did not know. A large number of respondents 65.3% (n=66,  $p<0.0001$ ) believed that people are likely to get HIV by deep kissing, putting their tongue in their partners' mouth, if their partner has HIV. About 22.3% (n=23,  $p<0.0001$ ) believed this is true and 11.9% (n=12,  $p<0.0001$ ) did not know.

Nearly half of the respondents 52.5% (n=53,  $p<0.0001$ ) had knowledge of a female condom that can help decrease a woman's chances of getting HIV, and 40.6% (n=41,  $p<0.0001$ ) of the respondents were not aware that there is a female condom, while 6.9% (n=7,  $p<0.0001$ ) of the respondents were not sure. A large proportion of respondents (59.4, n=60,  $p<0.0001$ ) did not believe that taking an HIV test one week after having sex will tell a person if she or he has HIV, and 31.7% (n=32,  $p<0.0001$ ) believed it was true. 8.9% (n=9,  $p<0.0001$ ) were not sure of the answer.

Half of the respondents 50.5% (n=51,  $p<0.0001$ ) believed that abstinence was the best way to prevent HIV/AIDS, 36.6% (n=37,  $p<0.0001$ ) did not believe so, and 12.9% (n=13,  $p<0.0001$ ) did not know.

Majority (83.2%, n=84,  $p<0.0001$ ) believed that you cannot cure HIV by sleeping with a virgin, 10.9% (n=11,  $p<0.0001$ ) believed so, and 5.9% (n=6,  $p<0.0001$ ) were not sure. More than half (56.4%, n=57,  $p<0.0001$ ) of respondents did not know that drugs and alcohol increase chances of being infected with HIV/AIDS, it is only 29.7% (n=30,  $p<0.0001$ ) who had such knowledge, and 13.9% (n=14,  $p<0.0001$ ) did not have an answer.

Majority of respondents (65.3%, n=66,  $p<0.0001$ ) had knowledge that ART has helped to manage HIV and AIDS, while 28.7% (n=29,  $p<0.0001$ ) did not think so and 5.9% (n=6,  $p<0.0001$ ) were not sure. Most respondents (85.1%, n=86,  $p<0.0001$ ) did not believe that you can tell that someone is HIV and AIDS positive just by looking at them, and 5% (n=5,  $p<0.0001$ ) did not know. Majority (63.4%, n=64,  $p<0.0001$ )

felt that it was true that HIV/ AIDS was transmitted by sharing needles, 31.7% (n=32,  $p<0.0001$ ) did not think so, and 5% (n=5,  $p<0.0001$ ) did not know.

#### 4.3.5 Respondents' attitudes towards HIV /AIDS prevention

All respondents responded to the questions on attitudes of college students towards HIV /AIDS prevention.

**Table 4.5: Respondents Attitudes towards HIV /AIDS (N=101).**

Attitudes towards HIV /AIDS	True	False	Did not Know	P-Value
1. Most people who are infected with AIDS have only themselves to blame.	11(10.9%)	88(87.1%)	2(2.0%)	<0.0001
2. Hospital patients who are HIV positive should not be put in rooms with other patients.	10(9.9%)	80(79.2%)	11(10.9%)	<0.0001
3. Young children should be removed from the home if one of the parents is HIV positive.	10(9.9%)	85(84.2%)	6(5.9%)	<0.0001
4. I think women who give birth to babies who are HIV positive should be prosecuted for child abuse.	10(9.9%)	84(83.2%)	7(6.9%)	<0.0001
5. I feel more sympathetic toward people who get AIDS from blood transfusions than those who get it from drug abuse.	35(34.7%)	55(54.5%)	11(10.9%)	<0.0001
6. I am worried about getting AIDS from social contact with someone.	15(14.9%)	79(78.2%)	7(6.9%)	<0.0001
7. I would do everything I could to support people with AIDS.	57(56.4%)	33(32.7%)	11(10.9%)	<0.0001

<b>Attitudes towards HIV /AIDS</b>	<b>True</b>	<b>False</b>	<b>Did not Know</b>	<b>P-Value</b>
8. I would be worried about my child getting AIDS if I knew that one of his teachers was a homosexual.	26(25.7%)	66(65.3%)	9(8.9%)	<0.0001
9. I have little sympathy for people who get AIDS from sexual promiscuity.	19(18.8%)	69(68.3)	13(12.9%)	<0.0001
10. I am not likely to get HIV/AIDS	14(13.9%)	49(48.5%)	38(37.6)	<0.0001

Respondents in this study showed empathy towards people infected with HIV/AIDS. Majority (87.1%, n=88, p<0.0001) did not believe that most people who are infected with AIDS have only themselves to blame, 10.9% (n=11, p<0.0001) believe so, and 2% were not sure. Majority of the respondents (79.2%, n=80 p<0.0001) did not believe that hospital patients who are HIV positive should not be put in rooms with other patients. 9.9% (n=10, p<0.0001) believed they should be separated, and 10.9% (n=11, p<0.0001) were not sure. A large percentage (84.2% ,n=85, p<0.0001) did not believe that young children should be removed from home if one parent is HIV positive, even though 9.9% (n=10, p<0.0001) felt that they should be removed, and 5.9% (n=6, p<0.0001) was not sure. Additionally, 83.2% (n=84, p<0.0001) of respondents did not believe that women who give birth to babies who are HIV positive should be prosecuted for child abuse, about 9.9% (n=10, p<0.0001) believed so, and 6.9% (n=7, p<0.0001) was not sure.

Almost half of the respondents (54.5%, n=55, p<0.0001) did not feel more sympathetic toward people who get AIDS from blood transfusions than those who get it from drug abuse. Respondents who felt sympathetic towards those who get AIDS from blood transfusion were 34.7% (n=35, p<0.0001), and 10.9% (n=11, p<0.0001) did not know. Most respondents (78.2%, n=79, p=<0.0001) were not worried about getting AIDS from social contacts with someone, and only 14.9% (n=15, p=<0.0001) were worried, 6.9% (n=7, p<0.0001) were unsure. When it comes to supporting people with AIDS, almost half of the respondents 56.4% (n=57, p<0.0001) was willing to do everything to support those infected, and only 32.7% (n=33, p=<0.0001) was not willing to do so, with about 10.9% (n=11, p<0.0001) not sure of what they will do.

Sixty-four out of 101 respondents (65.3%  $p<0.0001$ ) were not worried about their child getting AIDS if they knew that one of his teachers was a homosexual, very few 25.7%,  $n=26$ ,  $p<0.0001$ ) didn't worry and 8.9% ( $n=9$ ,  $p<0.0001$ ) was not sure. Approximately 68.3% ( $n=69$ ,  $p<0.0001$ ) did not express any sympathy for people who get AIDS from sexual promiscuity, 18.9% ( $n=19$ ,  $p<0.0001$ ) did, while 12.9% ( $n=13$ ,  $p<0.0001$ ) were undecided. Majority (48.5%,  $n=49$ ,  $p<0.0001$ ) felt that they were likely to get HIV/AIDS, whilst 13.9% ( $n=14$ ,  $p<0.0001$ ) indicated that they were not likely to get HIV/AIDS, and a substantive proportion was not sure (37.9%,  $n=38$ ,  $p<0.0001$ ).

#### 4.3.6 Respondents' sexual behaviour with regards to HIV/AIDS

Table 4.6, highlights college students' response regarding their sexual behaviours.

**Table 4.6: Respondents' sexual behaviours with regards to HIV /AIDS (N=101).**

HIV Prevention Behaviour	Strongly disagreed	Disagree	Neither	Agree	Strongly agree	P-Value
1.It is important to have an HIV test.	3(3.0%)	5(5.0%)	5(5.0%)	51(50.5%)	37(36.6%)	<0.0001
2. I can change my sexual behaviour.	10(9.9%)	11(10.9%)	7(6.9%)	46(45.5%)	27(26.7%)	<0.0001
3. I can visit local clinics to get condoms.	2(2.0%)	3(3.0%)	5(5.0%)	61(60.4%)	30(29.7%)	<0.0001
4.It is important to be taught how to use condoms.	1(1.0%)	5(5.0%)	5(5.0%)	57(56.4)	33(32.7%)	<0.0001
5.I will speak to my parents about sex.	7(6.9%)	24(23.8%)	5(5.0%)	42(41.6%)	23(22.8%)	<0.0001

<b>HIV Prevention Behaviour</b>	<b>Strongly disagreed</b>	<b>Disagree</b>	<b>Neither</b>	<b>Agree</b>	<b>Strongly agree</b>	<b>P-Value</b>
6.I can speak to my teachers for sexual advice.	8(7.9%)	16(15.8%)	5(5.0%)	44(43.6%)	28(27.7%)	<0.0001
7.It is good to have one partner.	3(3.0%)	10(9.9%)	5(5.0%)	42(41.6%)	41(40.6%)	<0.0001
8. I can speak to my friends if I have STIs.	7(6.9%)	18(17.8%)	5(5.0%)	43(42.6%)	28(27.7%)	<0.0001
9. Everyone is at risk of getting HIV and AIDS.	15 (14.9%)	9(8.9%)	6(5.9%)	40(39.6%)	31(30.7%)	<0.0001
10. Girls are more at risk of HIV and AIDS.	15(14.9%)	11(10.9%)	9(8.9%)	40(39.6%)	26(25.7)	<0.0001

According to Table 4.6 above, majority of the respondents (n=88; 87%;  $p<0.0001$ ) generally agreed that it is important to have an HIV test, and 8% (n=8,  $p<0.0001$ ) disagreed. Additionally, 72.3% (n=73,  $p<0.0001$ ) agreed that they can change their behaviour, with only 20.8% (n=2,  $p<0.0001$ ) disagreeing. Majority (90.1%, n=91,  $p<0.0001$ ) agreed that they can visit local clinics to get condoms. Almost the same proportion (89.1%, n=90,  $p<0.0001$ ) agreed that it is important to be taught how to use condoms, with a very small proportion of 6% (n=6) disagreeing.

The large proportion of respondents (63.2%, n=64,  $p<0.0001$ ) agreed that they can speak to their parents about sex, and very few (30.75%, n=31,  $p<0.0001$ ) individuals felt they could not, with about 5% (n=5) being undecided. Majority (71.3%, n=72,  $p<0.0001$ ) agreed that they can speak to their teachers for sexual advice, with only



23.7% (n=24,  $p<0.0001$ ) saying they cannot, and 5% (n=5,  $p<0.0001$ ) who were not sure.

Most of the respondents (82.2%, n=83,  $p<0.0001$ ) generally felt that it is good to have one partner, while 12% (n=13,  $p<0.0001$ ) felt otherwise. Majority (70.3%, n=7,  $p<0.0001$ ) felt that they can speak to friends if they have sexually transmitted infections, whilst 24.7% felt they could not, and 5% were not sure. The majority (70.3%, n=71,  $p<0.0001$ ) also agreed that everyone is at risk of getting HIV/AIDS, and 23.8% (n=24) did not agree. 65.3% (n=66,  $p<0.0001$ ) agreed that girls were more at risk of HIV, and 25.8% (n=26,  $p<0.0001$ ) disagreed, while 8.9% (n=9,  $p<0.0001$ ) were not sure. As indicated in Table 4.10 above, many of the respondents (n=88; 87%;  $p<0.0001$ ) generally agreed that it is important to have an HIV test, and 8% (n=8,  $p<0.0001$ ) disagreed. Additionally, 72.3% (n=73,  $p<0.0001$ ) agreed that they can change their behaviour as compared to those who disagreed 20.8% (n=2,  $p<0.0001$ ). A huge number of respondents (90.1%, n=91,  $p<0.0001$ ) agreed that they can visit local clinics to collect condoms. Almost the same proportion (89.1%, n=90,  $p<0.0001$ ) agreed that it is important to be taught how to use condoms, with a very small proportion disagreeing (6% n=6,  $p<0.0001$ ).

A large proportion of the respondents (63.2%, n=64,  $p<0.0001$ ) agreed that they can speak to their parents about sex, and very few (30.75%, n=31,  $p<0.0001$ ) individuals felt they could not, while about 5% (n=5) were undecided. The majority (71.3%, n=72,  $p<0.0001$ ) of the respondents agreed that they can speak to their teachers for sexual advice, with only 23.7% (n=24,  $p<0.0001$ ) indicating that they cannot, while 5% (n=5,  $p<0.0001$ ) was not sure. Most of the respondents (82.2%, n=83,  $p<0.0001$ ) generally felt that it is good to have one partner, while 12% (n=13,  $p<0.0001$ ) felt otherwise. Many of the respondents (70.3%, n=7,  $p<0.0001$ ) felt that they can speak to friends if they have STI's, whilst 24.7% felt they could not, and 5% (n=5) were not sure. The majority (70.3%, n=71,  $p<0.0001$ ) also agreed that everyone is at risk of getting HIV and AIDS, and 23.8% (n=24) did not agree. 65.3% (n=66,  $p<0.0001$ ) agreed that girls were more at risk of HIV, 25.8% (n=26,  $p<0.0001$ ) disagreed, and 8.9% (n=9,  $p<0.0001$ ) was not sure

### 4.3.7 Perceptions on LO programme and HIV/AIDS

Table 4.7 shows the respondents' response regarding Life Orientation and HIV/AIDS.

**Table 4.7: Perceptions on LO programme and HIV /AIDS (N=101).**

Perceptions on LO programme and HIV /AIDS	Strongly disagree	Disagree	Neither	Agree	Strongly agree	P-Value
1. I can apply some of the things I have learned about gender roles, sexuality and HIV/AIDS in the LO class to my personal life.	0(0.0%)	7(6.9%)	2(2.0%)	63(62.4%)	29(28.7%)	<0.0001
2. I talk to my parents or caregiver about sexual and HIV related topics I learned about in LO class.	7(6.9%)	16(15.8%)	6(5.9%)	52(51.5%)	20(19.8%)	<0.0001
3. My parents/ caregivers think it is a good thing that I learned about HIV/AIDS in school.	1(1.0%)	5(5.0%)	6(5.9%)	59(58.4%)	30(29.7%)	<0.0001
4. Teachers are trained to teach life orientation in schools.	3(3.0%)	7(6.9%)	6(5.9%)	56(55.4%)	29(28.7%)	<0.0001
5. Parents do not care about their children learning LO.	31(30.7%)	15(14.9%)	6(5.9%)	34(33.7%)	15(14.9%)	<0.0001

Perceptions on LO programme and HIV/AIDS	Strongly disagree	Disagree	Neither	Agree	Strongly agree	P-Value
6. I support sexual education element in LO.	1(1.0%)	9(8.9%)	6(5.9%)	47(46.5%)	38(37.6%)	<0.0001
7. Teaching students about sexual education encourages them to engage in sexual activities.	22(21.8%)	20(19.8%)	6(5.9%)	34(33.7%)	19(18.8%)	<0.0001
8. Life orientation is helping students in their day to day lives.	1(1.0%)	9(8.9%)	7(6.9%)	53(52.5%)	31(30.7%)	<0.0001
9. Condoms must be distributed in schools.	7(6.9%)	14(13.9%)	6(5.9%)	41(40.6%)	33(32.7%)	<0.0001
10. Due to LO, there are changes in youths today in terms of their attitude and behaviour towards HIV and AIDS.	3(3.0%)	9(8.9%)	7(6.9%)	45(44.6%)	37(36.6%)	<0.0001
11. I still remember what I was taught in LO.	3(3.0%)	8(7.9%)	7(6.9%)	51(50.5%)	32(31.7%)	<0.0001
12. HIV/AIDS is prevalent and problematic in my school community.	7(6.9%)	25(24.8%)	6(5.9%)	38(37.6%)	25(24.8%)	<0.0001
13. Social media is influencing the youth of today in terms of life skills.	1(1.0%)	8(7.9%)	6(5.9%)	56(55.4%)	30(29.7%)	<0.0001

Perceptions on LO programme and HIV/AIDS	Strongly disagree	Disagree	Neither	Agree	Strongly agree	P-Value
14. Youth must get tested regularly.	4(4.0%)	16(15.8%)	6(5.9%)	46(45.5%)	29(28.7%)	<0.0001
15. Do you think it is right to discuss about sex with students in class?	1(1.0%)	3(3.0%)	71(70.3%)	17(16.8%)	9(8.9%)	<0.0001
16. Do you think students need to be taught how to use condoms in school?	3(3.0%)	17(16.8%)	6(5.9%)	42(41.6%)	33(32.7%)	<0.0001
17. Life orientation helps to fight HIV/AIDS.	7(6.9%)	13(12.9%)	6(5.9%)	43(42.6%)	32(31.7%)	<0.0001
18. AIDS is undesirable.	3(3.0%)	11(10.9%)	36(35.6%)	31(30.7%)	20(19.8%)	<0.0001

According to Table 4.7 above, majority of respondents (91.1%, n=92, p<0.0001) agreed that they can apply some of the things they have learnt in LO, like gender roles, sexuality and HIV/AIDS in their personal life, and 6.9% (n=7, p<0.0001) disagreed. 71.3% (n=72, p<0.0001) of respondents agreed that they talked to their parents or caregiver about the sexual and HIV related topics they learned about in the LO class, 22.7% (n=23, p<0.0001) disagreed.

A number of respondents (88.1%, n=89, p<0.0001) generally agreed that their parents/caregivers think that it is a good thing that they learn about HIV/AIDS in school, and only 6% (n=6, p<0.0001) disagreed, while 5.9% (n=6, p<0.0001) of the respondents was not sure. A large proportion of respondents (84.1%, n=85, p<0.0001) agreed that teachers are trained to teach Life Orientation in schools, with only 9.9% (n=10, p<0.0001) disagreeing. Almost close to half of the respondents (45.6%, n=46, p<0.0001) disagreed that parents do not care about their children learning LO, and 48.6% (n=49, p<0.0001) of them agreed that parents do care.

Many (84.1%, n=85,  $p<0.0001$ ) supported the sexual education element in LO subject, while 9.9% (n=10,  $p<0.0001$ ) disagreed. Half of them (52.5%, n=53,  $p<0.0001$ ) agreed that teaching students about sexual education encourages them to engage in sexual activities, whilst 41.6% (n=42,  $p<0.0001$ ) disagreed, and 5.9% (n=6,  $p<0.0001$ ) was not sure.

Respondents (83.3%, n=84,  $p<0.0001$ ) agreed that Life Orientation is helping students in their day to day lives, and only 9.95% (n=10,  $p<0.0001$ ) disagreed. 73.3% (n=74,  $p<0.0001$ ) agreed that condoms must be distributed in schools, while 20.8% (n=21,  $p<0.0001$ ) of the respondents disagreed. Many (81.2% (n=82,  $p<0.0001$ ) felt that due to LO, there are changes in youths today in terms of their attitude and behaviour towards HIV and AIDS but 11.9% (n=12,  $p<0.0001$ ) disagreed with this. Eighty-three of the respondents (82.3%,  $p<0.0001$ ) still remember what they were taught in LO, about 10.9% (n=11,  $p<0.0001$ ) do not remember, and 5.9% were not sure. On another note, 62.4% (n=63,  $p<0.0001$ ) agreed that HIV/AIDS is prevalent and problematic in their school, 31.7% (n=32,  $p<0.0001$ ) disagreed with this. The majority (85.1%, n=82,  $p<0.0001$ ) believed that social media is influencing the youth of today in terms of life skills, only 8.9% (n=9,  $p<0.0001$ ) disagreed, and 5.9% (n=6,  $p<0.0001$ ) was not sure. Generally, 74.3% (n=75,  $p<0.0001$ ) agreed that youth must get tested regularly, while 19.8% (n=20,  $p<0.0001$ ) felt otherwise.

Shocking results showed that many (70.3%, n=71,  $p<0.0001$ ) were not sure whether it is right to discuss about sex with students in class. Only 25.7% (n=26,  $p<0.0001$ ) agreed and (4%, n=4) disagreed. However, most respondents were positive that students need to be taught about how to use condoms in schools, although a few disagreed (19.8%, n=20,  $p<0.0001$ ).

Most of the respondents (74.3%, n=75,  $p<0.0001$ ) believed that Life Orientation helps to fight HIV/AIDS, while a few respondents (19.8%, n=20,  $p<0.0001$ ) disagreed. Half of the respondents (50.5% n=51) believed AIDS is undesirable, while 13.9% (n=14,  $p<0.0001$ ) disagreed, and (35.6%, n=36) were not sure.

#### **4.4 PEARSON'S CORRELATION OF HIV/AIDS, KNOWLEDGE, ATTITUDE, BEHAVIUR AND LIFE ORIENTATION PERCEPTIONS OF SELECTED DEMOGRAPHICS**

Table 4.8 highlights the association of socio-demographic factors, knowledge, behaviours, attitudes regarding HIV/AIDS, Life Orientation programme and HIV /AIDS prevention.

**Table 4.8 Spearman RHO correlation of Knowledge, attitude, behaviour and Life Orientation perceptions with selected demographic characteristics of study respondents (N=101).**

	Knowledge	P-Value	Attitude	P-Value	Behaviour	P-Value	LO Perceptions	P-Value
Knowledge			0.132	0.190	-.205*	0.040	-0.088	0.379
Attitude	0.132	0.190	1.000		-0.188	0.060	-0.148	0.140
Behaviour	-.205*	0.040	-0.188	0.060	1.000		.575**	0.000
LO Perceptions	-0.088	0.379	-0.148	0.140	.575**	0.000	1.000	
Age	0.020	0.841	-0.078	0.439	.225*	0.023	0.087	0.386
Race	0.085	0.399	0.020	0.839	-0.085	0.398	-0.143	0.155
Language	0.085	0.400	-0.192	0.054	0.025	0.802	-0.051	0.612
Gender	-0.017	0.862	-.280**	0.005	0.101	0.313	0.013	0.895

\*=significant correlation at 0.05 level

Table 4.8 above shows the Spearman RHO correlation of knowledge, attitude, behaviour and Life Orientation perceptions with selected demographic characteristics of the study respondents. There is a negative association between knowledge of HIV/AIDS and behaviour ( $df=99$ ;  $r=-0.205$ ;  $p=0.040$ ), results are significant at 5% or 0.05 level. This could mean the more the knowledge, the less the respondents change their behaviour.

Nevertheless, there is a positive association between behaviour and Life Orientation perceptions ( $df=99$ ;  $r=0.575$ ;  $p=0.000$ ), and the result is significant. Those who positively perceived Life Orientation and HIV/AIDS had greater chances of having adequate knowledge on HIV/AIDS, and remained unlikely to perceive HIV/AIDS issues negatively. The implication of these results is that they would therefore use prevention measures, and take less risky behaviour. This implies that as the respondents' perception of Life Orientation is positive; they tend to change their behaviour. However, there is no association between perceptions and age, Life Orientation perceptions and race, Life Orientation perceptions and language, and Life Orientation perceptions and gender. There is a noteworthy association between age and behaviour ( $df=99$ ;  $r=0.225$ ;  $p=0.023$ ). The older age groups (above 20 years) were more likely to assess risk strategies better than those aged 20 years and below. The implication of these results shows that there is a decrease of dangerous behaviour amid the older youth.

Furthermore, the results show a negative association between gender and attitude ( $df=99$ ;  $r=0.280$ ;  $p=0.005$ ), the results are significant at 5% level. This could mean women were adopting a positive attitude towards HIV/AIDS than men. There was no association or correlation among knowledge and attitude ( $p$  values  $>0.05$ ), and knowledge and Life Orientation perceptions ( $p$  values  $>0.05$ ), knowledge and age ( $p$  values  $>0.05$ ), knowledge and language ( $p$  values  $>0.05$ ), and race and gender ( $p$  values  $>0.05$ ). Attitudes towards HIV/AIDS do influence perceptions on Life Orientation and HIV/AIDS, and results are not significant at 5% level.



#### **4.5 MULTIVARIATE CHI-SQUARE TESTS OF ASSOCIATION**

This research is to study the effects of Life Orientation programme on HIV/ AIDS prevention knowledge, attitudes and behaviours amongst college students in Randburg. In this case, multivariate regression analysis is run to check if there are any associations between perceptions on Life Orientation, HIV/AIDS, and the three dependent variables (knowledge, attitudes, behaviours).

**Table 4.9 Association of mean score on knowledge, attitude, behaviour and LO perceptions with selected demographic characteristics of study respondents (N=101).**

Characteristics	Total	Knowledge	P-Value	Attitude	P-Value	Behaviour	P-Value	Perceptions	P-Value
<b>Gender</b>					0.021 (- 2.353)		0.583 (0.551)		0.361 (- 0.918)
Female	51	1.82	0.799(0.255)	1.99		2.78		2.66	
		±0.53		±0.46		±0.13		±0.12	
Male	50	1.74		1.82		2.99		2.75	
		±0.03		±0.43		±0.99		±0.93	
<b>Age</b>					0.454 (- 0.751)		0.119 (1.573)		0.706 (- 0.378)
18 Years	19	1.79	0.127 (1.539)	1.96		2.61		2.58	
		±0.07		±0.88		±0.17		±0.22	
19 Years	13	1.70		1.80		2.85		2.76	
		±0.29		±0.07		±0.15		±0.09	
20 Years	14	1.86		1.98		2.93		2.76	
		±0.10		±0.88		±0.26		±0.23	
21 Years	9	1.87		2.10		2.61		2.49	

Characteristics	Total	Knowledge	P-Value	Attitude	P-Value	Behaviour	P-Value	Perceptions	P-Value
		±0.16		±0.11		±0.42		±0.38	
22 Years	11	1.70		1.84		3.15		2.87	
		±0.05		±0.74		±0.16		±0.11	
23 Years	11	1.64		1.84		3.19		2.73	
		±0.04		±0.80		±0.16		±0.95	
24 Years	15	1.90		1.92		2.68		2.67	
		±0.13		±0.12		±0.31		±0.27	
25 Years	9	1.75		1.81		3.11		2.86	
		±0.04		±0.03		±0.13		±0.99	
Language			0.046 (2.022)		0.007 (-2.761)		0.896 (-0.132)		0.559 (-0.587)
Sesotho	6	1.77		2.21		2.62		2.77	
		±0.45		±0.15		±0.17		±0.17	
Tswana	3	1.60		2.20		3.23		2.69	
		±0.10		±0.15		±0.22		±0.19	
Zulu	23	1.73		1.91		3.10		2.98	
		±0.04		±0.04		±0.12		±0.09	

Characteristics	Total	Knowledge	P-Value	Attitude	P-Value	Behaviour	P-Value	Perceptions	P-Value
English	10	1.75		1.72		2.73		2.53	
		±0.52		±0.06		±0.10		±0.30	
Afrikaans	6	1.70		1.87		3.05		2.84	
		±0.48		±0.07		±0.24		±0.14	
Tshivenda	8	1.87		1.95		3.18		2.59	
		±0.17		±0.16		±0.48		±0.37	
IsiNdebele	2	1.63		1.75		3.05		2.86	
		±0.33		±0.05		±0.35		±0.47	
IsiXhosa	11	1.78		1.88		2.65		2.32	
		±0.13		±0.12		±0.30		±0.25	
Xitsonga	6	1.76		1.81		2.88		2.82	
		±0.06		±0.06		±0.29		±0.14	
Sepedi	5	1.73		1.84		2.98		2.82	
		±0.08		±0.06		±0.13		±0.14	
other	21	1.90		1.93		2.66		2.55	
		±0.11		±0.10		±0.26		±0.23	
<b>Race</b>			0.636(0.475)		0.396 (- 0.853)		0.282(1.081)		0.013 (- 2.521)

Characteristics	Total	Knowledge	P-Value	Attitude	P-Value	Behaviour	P-Value	Perceptions	P-Value
Black	82	1.76		1.90		2.93		2.78	
		±0.03		±0.04		±0.09		±0.74	
White	6	1.79		1.95		3.02		2.80	
		±0.07		±0.08		±0.16		±0.16	
Indian	5	1.97		1.92		2.26		2.28	
		±0.26		±0.23		±0.57		±0.55	
Coloured	7	1.90		1.97		2.54		2.12	
		±0.19		±0.17		±0.48		±0.53	

As shown in Table 4.9, not much difference in relation to gender was noted. There were 51 females and 50 males. In terms of gender, it shows that there is an association between gender and attitude ( $t(29)=2.353$ ;  $p=0.021$ ). There was a noteworthy difference with females mean scores of  $1.99 \pm 0.46$ , and males  $1.82 \pm 0.43$ . Females scored higher on attitude than males.

However, there is no association between gender and behaviour ( $p > 0.005$ ), gender and knowledge ( $p > 0.005$ ), and gender and Life Orientation perceptions ( $p > 0.005$ ). In terms of age, no association was detected ( $p > 0.005$ ), age and attitude ( $p > 0.005$ ), age and behaviour ( $p > 0.005$ ), and age and perceptions ( $p > 0.005$ ).

There is an association however, in terms of language and knowledge ( $t(29)=2.022$ ;  $p=0.046$ ), with the other languages scoring the highest in terms of knowledge ( $1.90 \pm 0.11$ ), and the Tswana with the least mean ( $1.60 \pm 0.10$ ). Furthermore, there is a negative association in terms of language and attitude ( $t(29)=-2.761$ ;  $p=0.007$ ), with Sesotho having a maximum score of  $2.21 \pm 0.17$ , and English with a minimum score of  $1.72 \pm 0.06$ . There was no association between language and behaviour, and language and Life Orientation perceptions.

On the other hand, there is a negative association between race and Life Orientation perceptions ( $t(29)=-2.521$ ;  $p=0.013$ ). The highest mean was recorded by the Whites ( $2.80 \pm 0.16$ ), and the lowest by the Coloured, with  $2.12 \pm 0.53$  as mean and standard deviation.

## **4.6 SUMMARY**

In this Chapter, the outcomes were obtained and analysed. The respondents' demographic characteristics, respondents' response rate, knowledge of HIV/AIDS, attitude around HIV/AIDS, perceptions towards Life Orientation, were analysed and interpreted and results were presented under those headings. The use of a statistician was engaged for the data analysis. Most of the respondents were females. All the respondents were level one students at the college, and all of them were single. They were from diverse backgrounds, with the mainstream being of the Zulu decent. The age group ranged from 18 to 25, with the most represented group being the 24 year olds. They were studying different courses with the majority in courses like Business

Studies, Office Administration, Information Technology, Tourism and Science. Many of the respondents were black.

The major results were that the youth have less knowledge and a high constructive attitude around HIV/AIDS, and Life Orientation.

Most of the respondents scored low on knowledge (59.4%), high on attitude, behaviour and perceptions with 56.4%. The results showed insignificant difference between the high and low score on knowledge, attitude, behaviour and perceptions. On the other hand, respondents mean was higher on behaviour ( $2.9 \pm 0.8$ ), followed by perceptions ( $2.7 \pm 0.8$ ), then attitude ( $1.9 \pm 0.3$ ), and lastly knowledge with  $1.7 \pm 0.3$ . Respondents are still struggling with some of the prevention of HIV/AIDS knowledge, but are showing great positive attitude towards the HIV/AIDS infected and affected. There is massive improvement in terms of behaviour change and HIV/AIDS protection.

A Spearman RHO correlation of knowledge, attitude, behaviour, and Life Orientation perceptions with selected demographic characteristics of study respondents was done. A negative relationship between knowledge in HIV/AIDS and behaviour, and significant results were noted. On the other hand, there was a positive correlation amid behaviour and Life Orientation perceptions, and results are significant. A multivariate association of mean score of knowledge, attitude, behaviour, and Life Orientation perceptions with selected demographic characteristics of study respondents was performed. In terms of gender, it shows that around gender and attitude there is an association. Females scored higher on attitude than males. However, no association among gender and behaviour, gender and knowledge, and gender and Life Orientation perceptions were detected. There is an association between language and knowledge, with others scoring high, and Tswana scoring low. There is, however, no association between language and attitude, behaviour and Life Orientation perceptions. The next chapter (Chapter 5) will discuss these results, limitations and recommendations .

## **CHAPTER 5**

### **DISCUSSION OF RESULTS, LIMITATIONS, RECOMMENDATIONS AND CONCLUSION**

#### **5.1 INTRODUCTION**

The current section discusses the research outcomes concerning the effects of Life Orientation on HIV/AIDS knowledge, attitude and behaviour amongst college students. Conclusions, limitations, and recommendations of the study are also presented in this section.

#### **5.2 SUMMARY AND INTERPRETATION OF RESEARCH FINDINGS**

The purpose and objectives were guided by the Aids Risk Reduction Model which formed parts of the discussion. The study design was quantitative in nature, and applied cross-sectional design. One hundred and thirty-one college students completed the questionnaires. The generated data were analysed with IBM SPSS version 25. Descriptive, inferential and multivariate analyses were conducted to realise the research objectives. Prominent results of the research are deliberated, and deductions made grounded on the obtained results. Recommendations are made to guide policy development, operations and further research.

##### **5.2.1 Demographic data**

The study revealed almost an equal representation of females at 50.5% and males 49.5%. An adequate representation of both genders provided an opportunity to get a better standpoint regarding the study purpose. All respondents were not married for which provided a better understanding of their behaviours towards prevention of HIV/AIDS. Different age groups ranging from 18 to 25 years took part in the study. In South Africa, schooling begins at age seven and probably reach matric at 18 years. The 18 to 24 is a phase in danger of acquiring HIV because of their sexual developmental stage.



A large number of the students (22.8%, n=23) were studying Business Studies and this was also echoed by StatsSA (2017:34). This is not surprising because the RSA government has been encouraging the youth to be actively involved in the economy of the country. Studying business would better inform the students on how to manage their businesses. Hence, more and more are enrolling in the business sector. It was noted that most college students were Zulu (22.8% n=23). This could be attributed to the migration of Zulus to Gauteng Province to work in the mines (Bennett, Hosegood, Newell & McGrath 2015:7). Most students (81.2%, n=82) were Blacks as compared to few Whites at 5.9% (n=6), and Indians (5%, n=5). These findings are corroborated by StatsSA (2017:36), which highlighted that few Blacks registered at universities when matched to their White equals. A large number of Blacks at TVET colleges could be as a result of the financial constraints to access universities as compared to other categories (Rasool & Mahembe 2014: 24).

### **5.2.2 Youth knowledge of HIV/AIDS-related issues**

Generally, the knowhow of college students concerning HIV /AIDS was decent as most scores were above seven. In support, Xiaochen and Haidong (2019:12) noted development in knowledge about HIV/AIDS in South Africa from 1970 to 2017. The improvement in knowledge regarding HIV/AIDS could be attributed to educational strategies put in place to create awareness.

It was noted that the college students had sufficient understanding of HIV/AIDS transmission, prevention, and treatment. This was consistent with the findings of Zainiddinov and Habibov (2016:64) that show that there is enough knowledge being imparted to the youth in colleges. This was also similar to the findings highlighted by Andrew, Bhuiyan, Mawson, Buxbaum, Sung and Shahbazi (2018:12). Consistently, Thanavanh et al (2013:36) indicated a great improvement with half of the people having the correct facts about the disease. However, on contrary Alawad, Alturki, Aldoghayyim, Alrobaee and Alsoghair (2019:7) stressed the poor level of knowledge among level one students. In this study, the advancement of knowledge could be credited to Life Orientation programme studied in high school. The publicity around HIV/AIDS is increasing greatly because of media and Life Orientation.

An overwhelming number of college students demonstrated awareness regarding the route through which HIV/AIDS is transmitted. Ninety percent (n=90) did not believe that one could acquire infection from a glass of water used by an individual who has HIV. Importantly, 63.4% (n=64) knew that sharing needles can spread HIV/AIDS. Conflicting results were revealed by Pharr et al. (2017:5), who showed a lack of knowledge in a study in Nigeria. According to Zuilkowski and Jukes (2011:12), when people have information about this disease, there is a possibility of behavioural change. Furthermore, this is supported by Masonda and Govender (2013:65) who also discovered that there is a connection between education and knowledge.

It was encouraging that college students were knowledgeable regarding the importance of anti-retroviral treatment. This means the respondents can access and get medication if the need arises (Arlinghaus & Johnston 2017:12). The vast majority (85.1%, n=86) believed that one cannot tell through naked eyes if someone is HIV positive or not. Taukeni and Ferreira (2016:7) found similar findings regarding HIV/AIDS awareness among adolescents. The ARRM postulate that if college students are knowledgeable pertaining to HIV, they are likely to take precautionary actions.

It should also be noted that this study has corrected myths and misconceptions around HIV/AIDS. Majority of the students (83.2%, n=84) believed that one cannot cure HIV/AIDS by sleeping with a virgin. Thanavanh et al. (2013:35) also pointed out that most of the youth were aware that HIV is spread by indulging in sexual intercourse without using protection with someone positive. This shows that the youth had enough knowledge to correct the myths. Sano, Antabe, Atuoye, Hussey, Bayne, Gala, Mkandawire and Luginaah (2016:6) state that educated individuals are less likely to hold misconceptions.

Although many students had insight concerning HIV/AIDS, a gap of misinformation was observed. More than half (56.4%, n=57) of the respondents did not know that drugs and alcohol advanced the risk of being infected. Only 29.7% (n=30) had such knowledge, and 13.9% (n=14) were not sure of the fact. Similarly, Maimaiti, Shamsuddin, Abdurahim, Tohti and Memet (2010:45) found that the respondents could not relate the spread of HIV to the exchange of contaminated sharp objects.

This ignorance could be related to drug and alcohol abuse by most youth, hence in denial of the consequences of these risky behaviours. According to Maluleke (2010:9), the use of drugs increases the risk of HIV/AIDS as youth cannot control themselves when they are intoxicated. Youth cannot negotiate safer sex, and in most cases, engage in risky behaviours, like not using condoms.

Furthermore, a negative connection between knowledge of HIV/AIDS and behaviour ( $r=-0.205$ ;  $p=0.040$ ) outcomes is substantial at 5% or 0.05 level. These results explain that even if the youth have the knowledge, they do not seem to be using it to alter their behaviour in terms of HIV/AIDS (Iqbal, Maqsood, Zafar, Zakar, Zakar & Fischer 2019:10) supported by (Khamisa & Mokgobi 2018:9). This result is similar to findings among youth in Cameroon by Nubed and Akoachere (2016:6). Andrew et al. (2018:13) also discovered 96% overall knowledge among respondents. The knowledge exerted by the respondents shows that they have learnt something from their LO lessons. However, according to the ARRM theory, the youth have not started taking action to protect themselves. It shows they are still on stage one where they know, but they have not yet taken action.

### **5.2.3 College Students' Attitudes towards HIV/AIDS**

College students displayed positive attitudes toward HIV/AIDS. According to Gallant and Maticka-Tyndale (2004:1344), changes in attitude are good enough evidence of behaviour change. These results are similar to other researchers (Teklehaimanot et al. 2016; Huang, Fu, Zhao, Qiu, Zhao & Cao 2015). According to the ARRM theory, attitude is linked to action (Catania 1999:76). The positive attitude will encourage the youth to take action, while a negative attitude will make them reluctant to take action (Kikwasi, Lukwale & Mwageni 2017:24).

Females had a higher mean score ( $1.99 \pm 0.46$ ), than their male counterparts ( $1.82 \pm 0.43$ ). The deduction is that females are more empathetic to HIV /AIDS suffers than males. This could be that females are gaining more knowledge, and accepting the affected and infected as most of the females were disadvantaged (Singh, Osman, Rahmat, Bakar, Razak & Nettem 2017:5).

Women having a positive attitude is a good development as this means they can act and protect themselves from HIV/AIDS (Rueda, Mitra & Chen 2016:8). Majority of the respondents (65%, n=66) were less concerned about children being infected by a gay teacher. Therefore, this shows a positive attitude as it shows less labelling and stigmatisation amongst the South African youth (AVERT 2019:1). This kind of attitude means that college students can provide care to people infected irrespective of their sexual orientation (Mokgatle & Madiba 2017:3). This is a great improvement showing less discrimination against HIV/AIDS victims as compared to the findings revealed by Nubed and Akoachere (2016:7), whereby 50% of respondents had negative attitudes directed to those disease-ridden and affected by the disease.

Additionally, 83.2% (n=84) of the respondents did not blame mothers who deliver HIV positive babies. This helpful attitude might be related to the fact students acknowledge that women cannot deliberately infect unborn babies. With this kind of attitude, there is a possibility of a caring gesture towards everybody infected. According to Carlsson-Lalloo, Berg, Mellgren and Rusner (2018:6), less stigmatisation enhances free disclosure and empowerment regarding HIV/AIDS.

Many students (78.2%,n=79) were not anxious about being infested during social interaction with a person with the disease. The positive attitude could also be related to the knowledge the students acquired from Life Orientation. When youth have knowledge of the spread and transmission of HIV/AIDS, they tend to have an affirmative approach towards the disease (Singh, et al 2017:11). In support, Iqbal, Maqsood, Zafar, Zakar, Zakar and Fischer (2019:10) indicate that people who have more knowledge tend to have a helpful outlook about HIV/AIDS. In contrast, Ragmana (2019:78) discovered a lot of stigmatisation and judgemental attitudes among the unmarried. According to Haroun, El Saleh, Wood, Mechli, Al Marzouqi and Anouti (2016:12), national awareness need to be escalated to fill the knowledge gaps and reduce stigmatising attitude towards HIV/AIDS positive people.

It is noted that more respondents in this study demonstrated and expressed an attitude of acceptance towards individuals infected with HIV. In this regard, 84.2%, (n=85) did not believe that kids should be detached from family if a parent is HIV positive. Similar results were revealed by Dzah, Tarkang and Lutala (2019:7); Li et al. (2017:12).

However, the results do not concur with the research conducted by Chen, Zeng and She (2019:17), which identified a lot of stigmatisation towards HIV positive individuals in China. This, in a way, could be influenced by a change of mind-set brought by LO. This current research shows that stigmatisation has been reduced, which is similar to the study done by Feyissa, Lockwood, Woldie and Munn's (2019:10). This is shown by 79.2% (n=80) of the respondents who did not believe that HIV positive people should be isolated. This acceptance means people can work together, and those who are positive can come out, and many can go and get tested, and hence many will know their status (Feyissa, Lockwood, Woldie, & Munn 2019:5). This is United Nations' 90-90-90 main goal, which recommends that 90% of the world population should know their standing in terms of being positive or negative by the year 2030, supported by MacQueen (2017:7) who initiated that these goals need to be reached.

The results highlighted that 87.1% (n=88) did not blame the HIV/AIDS infected and affected. This positive attitude can be attributed to the knowledge acquired from Life Orientation, for example, understanding that some people are positive not because of their own doing. In some cultures, the youth are forced into marriages whereby they have no control over their sexual lives, including less power to negotiate condom use. This in a way exposes them to HIV infection, and therefore cannot be blamed for being HIV positive. This is supported by Peasant, Sullivan, Ritchwood, Parra, Weiss, Meyer and Murphy (2018:5) who even went further to suggest that there is need to partner with youth to reduce infections in these areas. Over 50% showed compassion toward the despair experienced by those infected with the virus. When youth have the knowledge, there is bound to be understanding, and negative attitudes are reduced to positive attitudes. This is reinforced by Zarei, Khabiri, Tajvar and Nosratnejad (2018:7) in their study where they discovered that extra knowledge influences affirmative approach towards HIV/AIDS.

At least 56.4% (n=57) of respondents felt that they would go an extra mile to care for individuals infected with the disease. This is similar to another evaluation done in Rueda, Mitra, Chen, et al. (2016:17). The assessment of attitude reported an increase in favourable attitudes towards risk reduction. This is also maintained by a study done in Tanzania by Mkumbo (2013:14) which displayed empathy to those infected with HIV.

Of concern is that 68.3% (n=69) of college students did not express any kindness for those who acquired HIV/AIDS from sleeping around. There is need for health planners, and school-based programmes to educate the youth about empathy (Rueda et al, 2016). Overall, the youth have shown great empathy to those infected at large, and this is similar to the HEAIDS (2014:34). Similar findings were also revealed in 2016 in Kuete, Qiao, Huang, and Rashid (2016:9), in 2017 in students in Barcelona, Spain by (Juan, Leyva-Morala, Roser, Feijoo-Cid, De Dios-Sánchez, Mestres-Camps, Lluva-Castañoa & Comas-Serranod 2017:7). All these results revealed a positive attitude towards HIV/AIDS. Same results were yielded in Zarei et al. (2018:8) study. In 2019, high attitude and acceptance were also observed in research done in Sub-Saharan countries (Dai & Wang 2019:9). This greatly reflects that Life Orientation is working to improve the students' attitude towards HIV/AIDS.

#### **5.2.4 Respondents sexual behaviours with regards to HIV/AIDS**

The issue of prevention of HIV/AIDS has three major aims, which is to try and increase condom use, reduce sexual partners or being faithful, and reduce sexual debut, that is, encourage abstinence, in other words WHO (2018:78). Wilton, Palmer and Maramba (2015:23) reveal that college students perceived lower HIV/AIDS risk and higher general HIV/AIDS knowledge. This was not similar to the findings of this research, which revealed that 70.3% (n=71) of the respondents agreed they could get infected with HIV/AIDS. Frank, Esterhuizen, Jinabha, Sullivan and Taylor (2008:29) had similar results, which revealed that some students used different ways to protect themselves. These results imply that Life Orientation is changing youths' lives for the better. These results show a great improvement in terms of awareness, and an understanding of lessons learnt in Life Orientation, for example, that HIV/AIDS is a threat to everybody (HEAIDS 2014:34).

What is a cause of concern, however, is that 24.7% of TVET College students could not speak to friends if they had STIs, and 5% were not sure if they can, showing lack of confidence in talking about their situation. Faimau, Maunganidze, Tapera, Masomane and Apau (2015:12) also indicated that youth did not have the confidence to speak to someone about HIV/AIDS in the setting of Botswana. This negative relationship means that when one increases, the other decreases (Chidrawi, Greeff,



& Temane 2014:9). This means that when knowledge increases, there are fewer chances of behaviour change and vice versa (Kelly & Becker 2016:10). This implies that the youth might refrain from using protection, and expose themselves to infection when they are saturated with information.

According to Kushlick and Rapholo (2008:21), 49% of learners from secondary schools could not apply HIV/AIDS knowledge to modify their risky behaviours. In support, Igbal et al. (2019:15) and Peasant et al. (2018:12) stressed that besides knowledge, the college students are still reluctant to change their behaviour. According to Dzah et al. (2019:12), this could be attributed to peer pressure. Kelly and Becker (2016:12) also emphasised the need to foster confidence and self-efficacy among the youth. The use of peer education or friendship-based interventions benefit is supported by Harper, Dolcini, Benhorin, Watson and Boyer (2014:609). One of the benefits being that they can openly discuss sensitive information because they feel safe and comfortable amongst one another.

The most worrisome finding is that 23.8% (n=24) of youth felt they are not threatened by this disease. The perception indicates that they are not going to worry about HIV/AIDS since they deem themselves unsusceptible to HIV/AIDS infection. (Nubed & Akoachere 2016:13). Additionally, some of the youth believed that it is not good to have one partner. There is need to emphasise on the advantages of sticking to one partner, and teaching youth that everybody is likely to be infected (Mokgatle & Madiba 2017:3). A study by Setume (2018:129) also supports this notion that is supported by the ARRM theory, that if the youth do not see themselves as being exposed to the disease, they will not take any preventative action. Life Orientation teachers and education planners must take note of this, and plan accordingly.

On a more positive note, many of the youth, (70.3%, n=71) unlike in the past studies, felt that they are likely to acquire HIV/AIDS. According to ARRM, this is a great accomplishment as once they label themselves susceptible to the disease, the college students will take action to protect themselves (Andrew et al 2018). 90.1% (n=91) of the respondents generally agreed that they can visit local clinics to collect condoms. Many of the respondents (87%, n=87) generally agreed that it is important to have an HIV test. These results match with the HEAIDS (2014) results in TVET colleges.

Majority of respondents, (89.1%, n=90), need education on condom use. Naidoo, Chirinda, Mchunu, Swartz and Anderson (2015:374) discovered that reduction of risky behaviour was related to knowledge of condom use. In that regard, Chidrawi, Greeff and Temane (2014:11) suggest that educators should use that opportunity to emphasise the use of condoms amongst the youth. It was noted that 82.2% (n=83) generally felt that it is good to have one partner, and that self-restraint is the paramount method of protecting one from HIV/AIDS. In contrast, studies conducted by Karim and Karim (2010:3 as well as Francis and DePalma 2013:12) reveal that young men reported having multiple sexual partners.

The Life Orientation lessons could be playing a major part in making youth aware of the various ways to protect themselves through the HIV/AIDS program. In this study, youth are opening up to someone about their sexual issues. 70.3% (n=71) felt that they can speak to friends if they have STIs. This kind of communication will facilitate peer to peer counselling and change of behaviour among the youth (Carragher & McGaughey 2016:10). At least 65.3% (n=66) felt that girls were more at risk of HIV. According to Chidrawi, Greeff and Temane (2014:23), risk awareness amongst women is imperative in breaking the cycle of HIV/AIDS. In this case, women themselves should work hard to protect themselves, and men should also try their best to protect their women. There is need to continue encouraging the youth to be open about their sexuality so that they can seek help regarding HIV/AIDS support (Porter, Cooper, Henr, Gallo & Graefe 2019:23).

### **5.2.5 Perceptions of Life orientation and HIV/AIDS**

Table 4.7 highlights that TVET College students perceive Life Orientation and the HIV/AIDS programme positively and productively in their lives. The students responded positively to all the Life Orientation items. On the contrary, Jacobs (2011:9) revealed that LO is a useless subject which does not accomplish its aims. Amongst all the items, there was an overwhelming number of students (90.4% (n=91) who agreed that it is right to deliberate about sex with students in the classroom. On a similar note, 83.3% (n=84) of the respondents believed that Life Orientation is helping students in their everyday lives. The results were similar to Daile's (2016:11) who also discovered that Life Orientation was important in students' lives.



A similar proportion, (84.1%, n=85) generally supported the sexual education element in the Life Orientation programme. This is a positive note which encourages the educational planners to foster and improve the HIV/AIDS component of Life Orientation. The importance of Life Orientation is also supported by Brown and Wood (2018:14).

College students (91.1%, n=92) agreed that they can apply some of the knowledge they have learnt in Life Orientation, like gender roles, sexuality and HIV/AIDS in their personal lives. Additionally, 71.3% (n=72) of the youth believed that social media is influencing the youth of today in terms of life skills. This is reinforced by the study done in Tanzania by Smith (2019:7) which stressed that those exposed to media and social networks have more knowledge about prevention methods, and where to get information. This information improved self-efficacy and safer sex for the youth, and thus increasing action according to the ARRM (Li, Xue, Tucker, Wei, Durvasula, Hu, Kang, Liao, Tang & Ma 2017:13). There is need for health planners to incorporate social media too, in educating the youth about HIV/AIDS prevention (Mokgatle & Madiba 2017:3).

According to the findings of this study, Life Orientation is fostering positive attitude change, which leads to behaviour change towards HIV/AIDS. Students know places they can visit to get counselling and collect condoms. 80% of the respondents felt that due to Life Orientation, there are changes in youths today, concerning attitude and behaviour towards HIV/AIDS (Lamb & Snodgrass 2017:12). 74.3% (n=75) of the youth agree that youth must get tested regularly, which is in contrast to Andrew et al. (2012:15) study where very few respondents believed so. This positive attitude towards testing is very encouraging, given that the major point of HIV/AIDS testing is to fight against HIV/AIDS. This agrees with the ARRM theory, which insinuates that when the youth are aware of their status, they will be more careful in how they handle their sexual life, and will be willing to take action. This is reinforced by the CDC (2019:9) who stated that when persons know their status, they can obtain antiretroviral quickly. Those who are negative can also make major decisions in their lives to shield themselves. This is huge progress in the fight to stop HIV/AIDS since earlier research done on TVET colleges around South Africa showed that most youths were not interested in getting tested (Mokgatle & Madiba 2017:3). The health sector needs to

emphasise the importance of youth getting tested regularly during counselling sessions.

Despite the fact that the majority (60.4%, n=61) of the youth know where to get condoms, there is still need to teach them the skill of using them. Seventy-four percent were generally positive that students must be educated about condom use. Once students are taught and have the skill, they will be able to use condoms with confidence. Griessel-Roux, Ebersöhn, Smit and Eloff (2005:12) also emphasised the need for the youth to know about the disease so that they can protect themselves. The respondents (73.3%, n=74) believed that condoms must be distributed in schools. Wang, Lurie, Govindasamy and Mathews (2018:9) affirmed the need for condom distribution so that the youth can make their own choices.

Half of the respondents (52.5%, n=53) felt that teaching students about sexual education encourages them to have sex. African parents still believe sex is a taboo subject, which does not need to be discussed unless one is getting married. This is in contrast to Masonda and Govender (2013:66), who mentioned that there is a need to encourage sex communication between families and their adolescents.

The silence around sex has been highlighted by 70.3% (n=71) of the respondents who were not sure of whether it is right to debate about sex in schoolrooms. This could be because of the barriers that were built in the past, where children were not allowed to talk about sex for cultural and religious reasons. This is similar to Flores and Barroso's (2017:4) study which revealed that lack of communication from parents makes children hesitant, scared, and confused to discuss sexual issues. According to Ashcraft and Murray (2017:12), there is need to involve the whole community when designing HIV/AIDS prevention messages for the youth. Kuumuori, Tagoe-Darko and Mensah (2012:88) braced the notion of breaking the silence. When designing campaigns, the Health Sector needs to design messages that correct this part of misinformation, and break the silence of not talking about sex and condoms (Mutema 2013:12).

The students (74.3%, n=75) believed that Life Orientation helps fight HIV/AIDS. Similarly, Pillay (2012:34) highlighted that Life Orientation helps students fight against HIV/AIDS. This could be due to a dialogue between parents and the respondents (71.3%, n=72) pertaining to sexual and HIV/AIDS issues. This is a good result, since

it used to be a taboo in most cultures to talk about sex education. There should be open communication in families regarding sex, HIV and STIs.

These suggestions are in agreement with the study conducted by (Ross & Sentalli 2017:9). Respondents who have the confidence to talk to their parents are more empowered to discuss safer sex with their companions. It is of utmost importance that the youth are taught about self-awareness so that they are equipped on how to deal with sexuality issues (Ashcraft & Murray 2017:6). Therefore, there is need for schools, parents, and the community at large to unite, educate, mould, and bring to the society individuals that are well informed about HIV/AIDS.

### **5.3 EFFECTS OF LIFE ORIENTATION ON ATTITUDE, BEHAVIOUR, AND KNOWLEDGE REGARDING HIV/AIDS**

The results from this study indicated that the youth had high knowledge or awareness regarding HIV/AIDS (59.4%, n=60), their attitude towards condom use were positive (88.3%, n=89), with lower prevention behaviours (43.6%, n=44), and very few 23.8% (n=24) did see possibility of getting infected with HIV/AIDS. They all agreed though, that HIV/AIDS is a serious danger. Overall, the youth are showing empathy to people infected with this disease. This could be attributed to the knowledge accumulated in Life Orientation. According to Magano and Rambado (2012:18), Life Orientation is designed in such a way that it empowers students to make good choices regarding their sexuality. This is supported by Shokoohi, Karamouzian, Mirzazadeh, Haghdoost, Rafierad and Sedaghat (2016:8), who stated that schools and universities must actively play a role in teaching the young about sexuality issues. In addition, these researchers went further to say that universities must be proactive in targeting youth and providing gender-sensitive interventions.

Additionally, according to the ARRM theoretical framework, once youth are not scared, or youth understand the means and ways HIV/AIDS is spread, they will stop being afraid of associating with infected people, and will also not be frightened to take action (Kelly & Becker 2016:14). The stigmatisation of the disease is also reduced, and where we are going, people will be open enough to go and get tested and share their HIV/AIDS status (Teklehaimanot, Teklehaimanot, Yohannes & Biratu 2016:12). This

is similar to Harper, Lamos and Harsek's (2014:21) results which show that stigma reduction leads to reduced risky behaviours.

### **5.3.1 The relationship between Life Orientation perception and Risky behaviour**

The results showed that the perception of Life Orientation and HIV/AIDS was associated with HIV risk behaviour. A positive relationship was discovered between Life Orientation perceptions and behaviour ( $r=0.575$ ;  $p=0.000$ ), and the result is significant. Those who positively perceived Life Orientation and HIV/AIDS had greater chances of improving their risky behaviour. Consistently, Carragher and McGaughey's (2016:12) showed that those who received the intervention reported an increase in safer sexual behaviours, with one good example being the use of condoms.

Age of respondents was also a significant factor associated with perception on Life Orientation and HIV/AIDS risk behaviour. The older age groups (above 20 years) were more likely to adopt risk strategies better than those aged 20 years below. This is similar to the results observed in Ama, Shaibu and Burnette (2016:6), where the older the respondents, the higher the perception of risk. These results imply that there is a reduction in risk behaviour among older youth than the young ones. More suitable lessons must be planned for young adults, where risk factors should be the main topic.

### **5.3.2 The relationship between Life Orientation perceptions and knowledge**

In terms of HIV/AIDS knowledge, perception on Life Orientation and HIV/AIDS was positively associated with HIV/AIDS knowledge ( $r=0.575$ ;  $p=0.000$ ), and the result is significant. Those who positively perceived Life Orientation and HIV/AIDS had greater chances of having enough knowledge to perceive HIV/AIDS issues negatively. The implication of these results is that they would, therefore, use prevention measures and take fewer risks. Thanavanh et al. (2013:12) stipulated that where there is high HIV/AIDS knowledge, there are higher chances of safer sex. The higher the positive perception, the higher the HIV/AIDS knowledge. The age of respondents was also a significant factor associated with perception on Life Orientation and HIV/AIDS knowledge. The older age groups (above 20 years) were less likely to negatively perceive HIV/AIDS issues compared to those 20 years and below. In other words, the

older the youth, the more they understood HIV/AIDS prevention strategies (Kelly & Becker 2016:12). These results imply that the older, the more understanding of how deadly the disease is, and the more conscious they become in taking precautions.

### **5.3.3 The relationship between Life Orientation perception and attitude**

Lastly, in terms of attitudes on HIV, perceptions of Life Orientation and HIV/AIDS were statistically associated with attitudes on HIV (Dzah 2019:16). There was an association between gender and attitude, with females scoring a higher mean on attitude than males. In terms of age, no association between attitudes and HIV/AIDS were discovered (Singh et al. 2017:15). Although the results are not significant, they probably provide a weak insight that there could be a positive influence of perceptions on Life Orientation and HIV/AIDS on attitudes on HIV/AIDS. The better and positive the perceptions, the more positive the attitude (Kelly & Becker 2016:2). The more knowledge respondents have, the more equipped they are to channel their attitudes towards HIV/AIDS (Singh et al. 2017:16). Once people are made aware that they do not get HIV/AIDS from sharing plates or tubs, they may develop a positive attitude towards HIV/AIDS. According to Li et al. (2017:9), lack of knowledge was the cause of stigmatisation. In conclusion, we can safely say in this study, that there is a more positive attitude because of HIV/AIDS awareness and Life Orientation lessons.

### **5.3.4 The relationship between Life Orientation perceptions and demographics**

Compared to those aged below 20 years, those aged above 20 were more likely to be positively influenced by perception on Life Orientation. In other words, the perception of Life Orientation was more likely to have a greater influence on those aged above 20 years (Ama et al. 2016:6). The older the youth, the more the knowledge, the more positive perceptions, behaviours and attitudes (Kelly & Becker 2016:12). Gender is not associated with perceptions of Life Orientation.

However, there is a negative association in terms of language and attitude  $p=0.007(-2.761)$ . Sesotho recorded a maximum score of  $2.21 \pm 0.17$ , and English had a minimum score of  $1.72 \pm 0.06$ . This means that certain tribes or languages have a negative attitude towards the disease. Sesotho has the highest negative attitudes, and

Whites have the least negative attitudes. According to Dzah et al (2019:12), there is a relationship between attitude and ethnicity.

On the other hand, there is a negative association between race and Life Orientation perceptions  $p=0.013(-2.521)$ . The highest mean was recorded by the Whites at  $2.80 \pm 0.16$ , and the lowest by the Coloured at  $2.12 \pm 0.53$ . This shows that white people perceive Life Orientation more negatively than other races, with the Coloureds having the lowest mean. This is congruent to Singh et al. (2017:12) results in Malaysia. Some races, therefore, perceive HIV/AIDS negatively than others.

#### **5.4 THE THEORY OF ARRM AND THE RESEARCH FINDINGS**

The ARRM has been applied by several researchers such as Durojaiye (2011); Starks, Payton, Golub, Weinberger and Parsons (2014:711); Burke, Fleming and Guest (2014:577). The ARRM is made up of three stages, namely: (1) recognizing and labelling one's sexual behaviours as risk, (2) making an effort to reduce risk behaviours and (3) taking initiatives to change the risky behaviours such as condom use. The ARRM positions that for individuals to avoid being infected with HIV, individuals should perceive and acknowledge that their behaviours put them at risk, and should, therefore, be concerned (Catania, Kegeles & Coates 1990:53).

According to this study results, 71.54% of the youth perceived themselves as at risk, hence the reason why they had to use condoms to protect themselves. According to the theory, the youth will use condoms only when confidence is high (Andrew et al. 2018:23). This is also realised in the current research as the youth had the knowledge and information on where to get condoms, but were not so confident to use them. This could be because of a lack of skills on how to use condoms (Kanda & Mash 2018:15). It will be a good initiative if the health sector and the educational sector could come together and formulate policies on how students can be taught on how to use condoms in schools and colleges (Mwale & Muula 2017:44).

Applying the ARRM to this study was necessary as it helped the investigator to make clear the effectiveness of Life Orientation on HIV knowledge and attitudes of the college students. When college students are empowered, and have empathy towards



HIV/AIDS, they are bound to alter their behaviours and make changes regarding the prevention of the disease (Teklehaimanot et al. 2016). According to ARRM, for positive change to take place, an individual needs to acknowledge their vulnerability (Setume 2018:129).

That acknowledgement that they are at risk has pushed South African youth to take action. The 28.46% of youth that feels that they are not at risk is not likely to protect themselves from infection because they believe they cannot be infected (Setume 2018:129). However, Prager (2012:33) believes that theories of behaviour cannot modify behaviours, but they can guide policymakers on how to implement those actions accordingly.

## 5.5 CONCLUSIONS

Generally, college students have adequate knowledge regarding basic issues associated with HIV transmission and presentation. Most of them recognized the facts about HIV, which may perhaps be attributed to media and Life Orientation lessons. The study highlighted that students were empathetic and displayed positive attitudes towards PLWHIV. However, the lack of compassion was displayed towards individuals infected as a result of being promiscuous. This calls for more education regarding the disease. because of their promiscuity. Most students were aware of the actions they need to take to protect themselves from HIV. However, it is disheartening to realise though that the majority, still do not believe their susceptibility to HIV. The college students acknowledged the positive aspects of Life Orientation /HIV/AIDS programme. This means that they can utilise the information gained from this subject. Perception of Life Orientation and HIV/AIDS was statistically associated with HIV risk behaviour. A positive relationship between Life Orientation perceptions and behaviour was concluded. In terms of perceptions of Life Orientation and HIV/AIDS knowledge, the two were positively associated. Those who positively perceived Life Orientation and HIV/AIDS had greater chances of having enough knowledge to perceive HIV/AIDS issues negatively. Perceptions of Life Orientation and HIV/AIDS were significantly associated with attitudes on HIV. **The results highlighted the positive effects** of Life Orientation programme on HIV/ AIDS knowledge, attitudes and behaviours amongst college students in Randburg.

## **5.6 RECOMMENDATIONS**

### **5.6.1 Education**

- Peer education to be promoted in schools and in community-based programs
- Enhance levels of reproductive health, and post -exposure prophylaxis following rape
- Increase awareness among youth on ways to increase their self-awareness and confidence (self -efficacy)
- Life Orientation programs must be monitored and evaluated regularly
- Introduce creative programmes that incorporate music, movies or reality television shows with HIV/AIDS themes that are relevant to the youth.

### **5.6.2 Research**

- Future studies should also be done in different provinces
- There is need for further research on negotiating safer sex among boys and girls
- Research should be done to investigate communication between parents and youth regarding sex

### **5.6.3 Policy making**

- TVET clinics to provide free ARVs and free medical male circumcision
- Improve healthcare facilities and introducing clinics at colleges and universities
- Increase access to condoms and information for youth
- Youth must be involved in designing intervention programs so that they are relevant to them
- NGOs, Government and parents should liaise with schools on how they can change and foster behaviour change in youth, especially towards HIV/AIDS
- Campaigns must take advantage of social media platforms (e.g. Twitter, Facebook, MySpace, blogs, Instagram, You Tube, Games)



#### **5.6.4 Practice**

- Participation of parents and community members in HIV/AIDS programs should be encouraged
- Parents to be involved at the forefront of their children's lives, especially on sexual life. The parents must equip their children with the correct, relevant and proper reproductive information and skills before they reach puberty
- Increase practical male condom and female condom education for boys and girls

#### **5.7 CONTRIBUTION OF THE STUDY**

- The study lays a foundation on exposing the barriers that the youth are facing
- The recommendations made in this study will influence health planners and educational policy makers, school developers and communities at large
- The research will also add to the body of knowledge on how Life Orientation is helping to groom the youth

#### **5.8 LIMITATIONS OF THE STUDY**

- Data was collected at one TVET college which is problematic in terms of generalising the results to other settings

#### **5.9 CONCLUDING REMARKS**

Despite limitations and shortcomings indicated above, this research outlined positive effects of the Life Orientation programme on HIV/AIDS knowledge, attitudes, and behaviours amongst college students in Randburg. However, there is still need for knowledge expansion and practical skills acquisition in terms of how to use condoms properly. The assertion is that the results of this study may help in designing feasible and effective policies for future generations, as well as help the health sector in designing appropriate ways of spreading awareness to the youth. The information and recommendations will better inform policy makers regarding the development of

programmes and policies which address sexual behaviours of college students regarding HIV/AIDS.

Additionally, continued education is also very important, so this study will help the DoE in drafting policies and revising the ones available to suit today's youth.

The results of this study are crucial and beneficial to Life Orientation teachers in schools as they might need to relook their strategies and evaluation of teaching methods they are currently using. Furthermore, there is need to evaluate and monitor all these youth HIV/AIDS prevention programs.

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# ANNEXURES

## ANNEXURE A



**RESEARCH ETHICS COMMITTEE: DEPARTMENT OF HEALTH STUDIES**  
**REC-012714-039 (NHREC)**

5 December 2018

Dear Netsai Muchapondwa

**Decision: Ethics Approval**

**MSHDC/888/2018**  
Student: Netsai Muchapondwa

Student No.: 47691972  
Supervisor: Dr SH Khunou  
Qualification: D Litt et Phil  
Joint Supervisor: -

**Name:** Netsai Muchapondwa

**Proposal:** The effect of life orientation programme on HIV/AIDS knowledge; attitudes and behaviours amongst college students in Randburg

**Qualification:** MPCHS94


**Risk Level:** Low Risk

Thank you for the application for research ethics approval from the Research Ethics Committee: Department of Health Studies, for the above mentioned research. Final approval is granted from 5 December 2018 to 5 December 2020.

*The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Research Ethics Committee: Department of Health Studies on: 5 December 2018.*

*The proposed research may now commence with the proviso that:*

- 1) The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*
- 2) Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Research Ethics Review Committee, Department of Health Studies. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.*



University of South Africa  
Pretoria Street, Muldersburg Ridge, City of Tshwane  
PO Box 392, UNISA 0002 South Africa  
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150  
[www.unisa.ac.za](http://www.unisa.ac.za)

Open Public

- 3) The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.
- 4) You are required to submit an annual report by 30 January of each year that that the study is active. Reports should be submitted to the administrator [HSREC@unisa.ac.za](mailto:HSREC@unisa.ac.za). Should the reports not be forthcoming the ethical permission might be revoked until such time as the reports are presented.

*Note:*

The reference numbers [top middle and right corner of this communiqué] should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well as with the Research Ethics Committee; Department of Health Studies.

Kind regards,

**Prof JE Maritz**  
**CHAIRPERSON**  
[maritje@unisa.ac.za](mailto:maritje@unisa.ac.za)

**Prof A Phillips**  
**DEAN OF COLLEGE OF HUMAN SCIENCES**



University of South Africa  
Private Bag 936, Maseru Park, City of Tshwane  
PO Box 392, 00154 South Africa  
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## ANNEXURE B

**From:** Refiloe Mohlakoana <mohlakoana.r@dhet.gov.za>  
**To:** Netsai Muchapondwa <netymuch@yahoo.com>  
**Cc:** Hersheela Narsee <Narsee.H@dhet.gov.za>; Nompumelelo Skosana <Skosana.N@dhet.gov.za>; Renay Pillay <Pillay.r@dhet.gov.za>  
**Sent:** Friday, January 11, 2019, 01:52:49 PM GMT+2  
**Subject:** RE: PERMISSION TO DO RESEARCH AT SOUTH WEST GAUTENG TVET COLLEGE (TECHNISA CAMPUS)

Good Afternoon Ms Muchapondwa

Thank you very much for your taking my call this afternoon. Please be advised that the Department only gives support letter when you are conducting research in ten or more colleges. You indicated that you will be visiting only one TVET College. Please take the Standard attached with you to the College and apply to the Head of college directly. Kindly refer them to the two clauses 5.3 and 5.4 in case they demand a DHET letter.

Regards

Ms R Mohlakoana

Department of Higher Education & Training

Tel: 012 312 5300

Email: Mohlakoana.R@dhet.gov.za

- 4.2 The TVET and CET colleges are established by the Minister of Higher Education and Training in terms of sections 3(1a) and 3(1b) of the Continuing Education and Training Act, 2006 (Act No. 16 of 2006) through Proclamation No. 44 of 2009 which was published in Government Gazette No. 32367 of 1 July 2009.

## 5. APPLICATION PROCEDURE

- 5.1 Applicants are expected to complete an official application form titled "*Application to conduct research in public colleges*", which is attached as an Appendix to this Standard.
- 5.2 Registered Master's and Doctoral students are expected to complete the application form attached as Appendix 1. Research organisations (including individual researchers who are not registered students), are expected to complete the application form attached as Appendix 2.
- 5.3 Applicants who wish to undertake research in less than ten public Colleges for a specific study, must submit their application to the Head of the college/s concerned.
- 5.4 Applicants who wish to undertake research in ten or more public colleges must submit their application forms (either Appendix 1 or Appendix 2), to the DHET. The Department will provide a letter of support, which the applicant could use to gain access to the colleges concerned.
- 5.5 The applicant must submit the application form to the Head of the college/Department at least two months before field research begins. However, urgent applications may be considered by the Head of the college/Department, where applicable.
- 5.6 Students registered at a recognised Higher Education Institution who wish to undertake research in public college/s must include an Ethics Clearance Certificate as part of their application. The Ethics Clearance Certificate is expected to be provided by the Research Ethics Committee of the institution where the student is registered.



## ANNEXURE C



**higher education  
& training**  
Department:  
Higher Education and Training  
REPUBLIC OF SOUTH AFRICA



**SOUTH WEST GAUTENG TECHNICAL AND VOCATIONAL  
EDUCATION AND TRAINING COLLEGE**  
EDUCATION OF DISTINCTION

**HEAD OFFICE**  
Private Bag X33, Tshiawelo, 1817 |  
1822A Molele Street, Cnr Koma Road |  
Molapo | Soweto | 1801  
**Tel:** 086 176 8849  
**Fax:** (011) 984 0136  
**E-mail:** headoffice@swgc.co.za  
[www.swgc.co.za](http://www.swgc.co.za)

18 September 2019

Dear Ms Muchapondwa

**RE: PERMISSION TO CONDUCT RESEARCH AT TVET COLLEGE IN  
RANDBURG(TECHNISA)**

Kindly receive my apology for taking long to revert to you on your request.

I hereby grant you the permission to do research at the college in line with the  
assurances given in your letter of request.

Care should be taken that these interviews do not interfere with learning and  
teaching. The Student Support Service Unit should be requested to assist with the  
student interviews.

You will work with my colleague the Deputy Principal for Academic Affairs, Mr Joey  
Monyamane (copied).

His contact details are 0824453327.

Thank you.



Dan L Nkosi  
Principal  
South West Gauteng TVET College  
0828921106

SWGTVETC-PERMISSION GRANTED TO CONDUCT RESEARCH AT TECHNISA

Contact Centre Office 9, 2nd Floor Walter Sisulu Square of Dedication Kilipatone Soweto Fax: 011 945 1881 E-mail: callcentre@swgc.co.za	Dobsonville Campus Private Bag X 33, Tshiawelo, 1817 5504 Van Onselen Road Dobsonville, 1803 Fax: (011) 988-9212 E-mail: dobson@swgc.co.za	George Tabor Campus Private Bag X 33, Tshiawelo, 1817 1440 Mincube Drive Dube Village, 1801 Fax: (011) 982-5543 E-mail: gtabor@swgc.co.za	Molapo Campus Private Bag X 33, Tshiawelo, 1817 1622 Molele Street, Cnr. Koma Road Molapo, Soweto, 1801 Fax: (011) 984-0136 E-mail: molapo@swgc.co.za	Roodepoort Campus Private Bag X 33, Tshiawelo, 1817 No.3 Wetber Avenue, Horizon View Roodepoort, 1724 Fax: (011) 763-8937 E-mail: rdp@swgc.co.za	Roodepoort West Campus Private Bag X 33, Tshiawelo, 1817 No.1 Hinda & Lawson Street Roodepoort, 1724 Fax: (011) 766-4214 E-mail: rdpw@swgc.co.za	Technisa Campus Private Bag X7, Pinegowrie, 2123 Cnr. Huguanoet Avenue & Main Street Bordeaux, Randburg, 2194 Fax: (011) 886-7718 E-mail: tech@swgc.co.za
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Call Centre: 086 176 8849

TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING

**SABS**  
ISO 9001





## ANNEXURE D

From: Dr Tawanda Chiyangwa

292 Wonderpark Estate,  
Pretoria City

21 October 2019

University of South Africa  
South Africa

Dear Sir / Madam

I Tawanda Chiyangwa have verified the questionnaire as a statistician for Netsai Muchapondwa. I have analysed the work for Netsai Muchapondwa for her research with University of South Africa.

Yours sincerely

Dr Tawanda Blessing Chiyangwa



## ANNEXURE E

### QUESTIONNAIRE: HIV AND AIDS KNOWLEDGE, ATTITUDE, BEHAVIOURS AND LIFE ORIENTATION HIV /AIDS COMPONENTS

#### INTRODUCTION

Dear Respondent,

My name is Netsai Muchapondwa, I am a student at the University of South Africa and I am doing this study to fulfil my Master's degree.

The purpose of my study: **is to investigate the effect of life orientation programme on HIV/ AIDS prevention knowledge, attitudes and behaviours amongst college students in Randburg.**

The questionnaire objectives are

1. To determine HIV/AIDS knowledge amongst college students in Randburg
2. To determine HIV/AIDS attitudes among college students
3. To investigate behaviour/practice amongst college students in Randburg.
4. To determine the relationships between LO programme and HIV/AIDS knowledge, attitude and behaviours amongst college students in Randburg.

All answers are valuable there are no wrong or correct answer. We hope you will answer these questions as frankly and honestly as you can. This questionnaire will take approximately 25 minutes to complete. You only need the questionnaire and the pencil provided.

The information in this questionnaire is confidential and will not be used to harm you in any way. It will only be used for research purposes only. Your name, as well as the college name, will not appear anyway. Please answer honestly as this will help us in our analysis.

Thank you for your contribution

#### INSTRUCTIONS

- ❖ Please read each question carefully
- ❖ Do not skip any question
- ❖ Select only one response
- ❖ Follow the directions given below to answer questions

#### SECTION 1.DEMOGRAPHIC DETAILS

Please make an X or write next to the appropriate response

Demographic details			X	
1.1	What is your gender?	Female	1	
		Male	2	

1.2	What is your marital status?	Single	1	
		Married	2	
		Divorced	3	
		Widowed	4	
1.3	How old are you? (Age last birthday)	..... (Years)		
		1		
1.4	What field are you studying?	.....		
		1		
1.5	What is your home language?	Sesotho	1	
		Tswana	2	
		Zulu	3	
		English	4	
		Afrikaans	5	
		Tshivenda	6	
		IsiNdebele	7	
		IsiXhosa	8	
		Xitsonga	9	
		Sepedi	10	
		other	11	
1.6	What is your race?	Black	1	
		White	2	
		Indian	3	
		Coloured	4	
		Other (Please specify)	5	

## SECTION 2: HIV/ AIDS KNOWLEDGE QUESTIONNAIRE.

Indicate whether the following statements are true or false or don't know (DK). Mark with an X next to an appropriate response

HIV/ AIDS KNOWLEDGE		TRUE	FALS E	DK
2.1	A person can get HIV by sharing a glass of water with someone who has HIV.	1	2	3
2.2	Pulling out the penis before a man climaxes/comes keeps a woman from getting HIV during sex	1	2	3
2.3	A woman can get HIV if she has anal sex with a man.	1	2	3
2.4	Showering, or washing one's genitals/private parts, after sex keeps a person from getting HIV.	1	2	3
2.5	All pregnant women infected with HIV will have babies born with AIDS.	1	2	3
2.6	People who have been infected with HIV quickly show serious signs of being infected.	1	2	3
2.7	People are likely to get HIV by deep kissing, putting their tongue in their partner's mouth, if their partner has HIV	1	2	3
2.8	There is a female condom that can help decrease a woman's chance of getting HIV.	1	2	3
2.9	Taking a test for HIV one week after having sex will tell a person if she or he has HIV.	1	2	3
2.10	Abstinence is the best way to prevent HIV/AIDS	1	2	3

2.1 1	You can cure AIDS by sleeping with a virgin	1	2	3
2.1 2	Drugs and alcohol increase the chances of getting infected with HIV/AIDS	1	2	3
2.1 3	The anti-retroviral treatment has helped to manage HIV and AIDS	1	2	3
2.1 4	You can tell that someone is HIV and AIDS positive just by looking at them	1	2	3
2.1 5	HIV/AIDS is transmitted by sharing needles	1	2	3

Retrieved from Carey, P. M., & Schroder, K. (2002). Development and psychometric evaluation of the brief HIV knowledge questionnaire. AIDS Education Prevention, 14(2), 172-182.

### SECTION 3: AIDS ATTITUDE SCALE

Indicate whether the following statements are true or false or don't know (DK). Mark with an X next to an appropriate response

AIDS ATTITUDE		TRUE	FALS E	DK
3.1	Most people who are infected with AIDS have only themselves to blame. *	1	2	3
3.2	Hospital patients who are HIV positive should not be put in rooms with other patients. *	1	2	3
3.3	Young children should be removed from the home if one of the parents is HIV positive. *	1	2	3
3.4	I think women who give birth to babies who are HIV positive should be prosecuted for child abuse. *	1	2	3
3.5	I feel more sympathetic toward people who get AIDS from blood transfusions than those who get it from IV drug abuse.	1	2	3
3.6	I'm worried about getting AIDS from social contacts with someone. *	1	2	3
3.7	I would do everything I could to support people with AIDS.	1	2	3
3.8	I would be worried about my child getting AIDS if I knew that one of his teachers was a homosexual. *	1	2	3
3.9	I have little sympathy for people who get AIDS from sexual promiscuity. *	1	2	3
3.1 0	I am not likely to get HIV/AIDS	1	2	3

Retrieved from Froman, R. D., Owen, S. V., & Daisy, C. (1992). Development of a measure of attitudes towards persons with AIDS. Journal of Nursing Scholarship, 24(2), 149-152.

### SECTION 4: HIV /AIDS PREVENTION BEHAVIOUR

For the following statements indicate to what extent do you agree or disagree with the statements. Indicate with an (X) how you feel in the appropriate block

Select your answer using the following scale:

- 1=Strongly Disagree (SD),
- 2=Disagree (D)
- 3=Agree (A)
- 4=Strongly Agree (SA)

Changes that can address risk behaviour		Strongly disagree	Disagree	Agree	Strongly agree
4.1	It is important to have an HIV test	1	2	3	4
4.2	I can change your sexual behaviour	1	2	3	4
4.3	I can visit local clinics to get condoms	1	2	3	4
4.4	It's important to be taught how to use condoms	1	2	3	4
4.5	I will speak to my parents about sex	1	2	3	4
4.6	I can speak to my teachers for sexual advice	1	2	3	4
4.7	It's good to have one partner	1	2	3	4
4.8	I can speak to my friends if I have STIs	1	2	3	4
4.9	Everyone is at risk of getting HIV and AIDS	1	2	3	4
4.10	Girls are more at risk of HIV and AIDS	1	2	3	4

HIV Risk-taking Behaviour Scale (HRBS) developed from Maswanya, E., Brown, G., & Merriman, G. (2009). Attitudes and beliefs about HIV/AIDS behaviour and education among Tanzanian youth. *Sexual Health*, 6(4), 293-299

## SECTION 5: PERCEPTIONS ON LO AND HIV /AIDS

For the following statements indicate to what extent do you agree or disagree with the statements. Indicate with an (X) how you feel in the appropriate block

Select your answer using the following scale:

1=Strongly Disagree (SD),

2=Disagree (D)

3=Agree (A)

4=Strongly Agree (SA)

Perceptions of LO and HIV		Strongly disagree	Disagree	Agree	Strongly agree
5.1	I can apply some of the things I have learned about gender roles, sexuality and HIV/AIDS in the LO class to my personal	1	2	3	4
5.2	I talk to my parents or caregiver about the sexual and HIV related topics I learned about in the LO class	1	2	3	4
5.3	My parents/caregivers think it is a good thing that I learned about HIV /AIDS in school	1	2	3	4
5.4	Teachers are trained to teach life orientation in schools	1	2	3	4
5.5	Parents do not care about their children learning LO	1	2	3	4
5.6	I support the sexual education element in the LO	1	2	3	4
5.7	Teaching students about sexual education encourages them to engage in sexual activities	1	2	3	4

5.8	Life orientation is helping students in their day to day lives?	1	2	3	4
5.9	Condoms must be distributed in schools?	1	2	3	4
5.10	Due to LO, there are changes in youths today in terms of their attitude and behaviour towards HIV and AIDS	1	2	3	4
5.11	I still remember what I was taught in LO	1	2	3	4
5.12	HIV/AIDS is prevalent and problematic in my school community?	1	2	3	4
5.13	Social media is influencing the youth of today in terms of life skills?	1	2	3	4
5.14	Youth must get tested regularly	1	2	3	4
5.15	Do you think it is right to discuss sex with students in the class?	1	2	3	4
5.16	Do you think students need to be taught about how to use condoms in school?	1	2	3	4
5.17	Life orientation helps to fight HIV/AIDS	1	2	3	4
5.18	AIDS is undesirable	1	2	3	4

Developed the questionnaire from LO policies and curriculum and literature

**THANK YOU FOR COMPLETING THE QUESTIONNAIRE**

## **ANNEXURE F**

### **PARTICIPANT INFORMATION SHEET**

Dear participant you are invited to take part in the research project on: Effects of Life Orientation programme on HIV/ AIDS prevention knowledge, attitudes and behaviours amongst college students in Randburg. I would like you to answer a questionnaire in fulfilment of my Master's degree programme with UNISA.

Before you decide to take part, I want you to read the information below carefully. It explains the purpose of the research, and why you have been chosen to participate in this research and the risks involved. Knowing what is involved will help you to decide whether you want to be part of this research or not. Participation in this research is voluntary. You can decide not to participate, but if you decide to participate, you will be asked to sign a consent form.

### **PURPOSE OF THE RESEARCH**

We are investigating the knowledge, attitudes and behaviours of youth in Randburg colleges and to see if they are using this knowledge to change their behaviour in terms of HIV and AIDs prevention. The information gathered will be used in a research that will be given to the Ministry of Higher Education that will help in designing policies.

Why First year college students?

I have decided to research on the students who are currently in first year and above 18 years of age because I feel they have more information in terms of what they have learnt in LO, and to gauge if they are using this information in the prevention of HIV/AIDS.

### **Participant Involvement**

We would like you to answer a questionnaire that will take about 20 to 30 minutes. I would really appreciate it if you would answer the questions honestly and openly, so that we can really find out what young people in South Africa really think and gauge their behaviour in terms of HIV and AIDs prevention. The participation in this study is voluntary, and if you do not want to participate it is ok and I assure you that you will still be treated the same whether you participated or not.

#### Precautions:

Some of these questions might be too personal, and if you feel that you cannot answer them, you don't have to. If any of the questions upset you, or makes you feel uncomfortable, please bring it to my attention and I can refer you to a counsellor.

#### Advantages:

Participating in this research will help the policy makers device the right policies for the generations to come. You will be helping these other youths in South Africa to live an AIDS free generation. Your views and opinions will be very valuable. It might take time, but this will help greatly.

#### Disclosure policy/Collected material.

If you decide to participate in this study, everything is treated as confidential. The questionnaires will be seen by the researcher and supervisor. The name of the college and your name will remain anonymous. The information collected will be anonymously represented

#### For more information:

You can ask questions. You can email to [netymuch@gmail.com](mailto:netymuch@gmail.com) or phone on 0718762611.



## ANNEXURE G

320 Hill street Corner York  
Ferndale  
Randburg  
2194  
23 August 2018

THE Manager

.....

Dear Sir/Madam

RE: REQUEST FOR PERMISSION TO DO A RESEARCH IN YOUR COLLEGE

I hereby request for permission to conduct a public health research in your school. I am currently studying for a Master's in Public Health degree in Health Studies with University of South Africa. The title of my research is **Effects of Life Orientation programme on HIV/ AIDS prevention knowledge, attitudes and behaviours amongst college students in Randburg** . The Aim of the study is to investigate the association of socio-demographic factors, knowledge, behaviours, attitudes regarding HIV/AIDS, LO programme and HIV /AIDS prevention.

This letter serves to inform you that I Netsai Muchapondwa student Number 47691972 enrolled at UNISA will do research according to the policy of Research Ethics of the aforementioned university.

The study will involve a questionnaire that should be answered by the students. The study is conducted under the supervision of Professor Sisinyana Khunou, Department of Health Studies cell: 012 429 6290 Email:khunosh@unisa.ac.za

I would like to guarantee you that the research will take place during the student's free time and will not affect their learning time. I want to assure you that this will be conducted according to UNISA CODE OF ETHICS that the learners may at any time decide not to answer certain questions if they wish to discontinue participating in the research study, may do so as indicated by the consent letter attached. I guarantee you and the students confidentiality and anonymity in the study.

Thank you in advance

Yours Sincerely

N Muchapondwa

Student number 47691972

Phone number: 0718762611

Email: [netymuch@gmail.com](mailto:netymuch@gmail.com)

## ANNEXURE H

Radley Private School

320 Hill and York

Randburg

2194

23 August 2018

The Director

Gauteng Department of Higher Education

111 Commissioner street

Johannesburg

Dear Sir/Madam

RE: REQUEST FOR PERMISSION TO DO RESEARCH STUDY

I kindly seek permission to do a research in one TVET College in Gauteng province. The research will be undertaken outside the teaching hours. The normal teaching and learning programme of this college will not be disrupted, and the confidentiality and anonymity of the respondents will be respected.

I am registered currently with the University of South Africa for the Master's in Public Health in Health Sciences. The title of the research is, **Effects of Life Orientation programme on HIV/ AIDS prevention knowledge, attitudes and behaviours amongst college students in Randburg .**

Details of my project Supervisor

Professor Sisinyana Khonou Department of Health Studies cell: 012 429 6290 Email: [khunosh@unisa.ac.za](mailto:khunosh@unisa.ac.za) .

Purpose of study:

The aim of this research is to investigate the association of socio-demographic factors, knowledge, behaviours, attitudes regarding HIV/AIDS, LO programme and HIV /AIDS prevention, and to provide sound recommendations for effective implementation of HIV and Aids education in schools. In the other words, we really what to find out if this programme has changed the students' behaviour in terms of using condoms, reducing the number of sexual partners, and delaying the onset of sexual intercourse.

In South African, Life Orientation is aimed at educating healthy, responsible young people who are able to live productive lives in the new South Africa.

I hope that my request will be considered

Yours sincerely

N Muchapondwa

Student number: 47691972

Phone number: 0718762611

Email: [netymuch@gmail.com](mailto:netymuch@gmail.com)

## **ANNEXURE I**

### **CONSENT FORM**

I ....., hereby agree to participate in the research project on: **Effects of Life Orientation programme on HIV/ AIDS prevention knowledge, attitudes, and behaviours amongst college students in Randburg.**

#### **Motive:**

We are investigating the knowledge, attitudes and behaviours of youth in Randburg colleges and to see if they are using this knowledge to change their behaviour in terms of HIV and AIDs prevention. The information gathered will be used in a research that will be given to the Ministry of Higher Education to help in designing policies.

#### **How it works:**

We would like you to answer a questionnaire that will take about 20 to 30 minutes. I would really appreciate it if you would answer the questions honestly and openly, so that we can really find out what young people in South Africa really think and gauge their behaviour in terms of HIV and AIDs prevention. The participation in this study is voluntary, and if you do not want to participate it is ok.

#### **Advantages:**

Participating in this research will help the policy-makers device the right policies for the generations to come. You will be helping these other youth in South Africa to live an AIDS free generation. Your views and opinions will be very valuable. It might take time, but this will help greatly.

#### **Disclosure policy:**

If you decide to participate in this study, everything that we discuss is treated as confidential and will not be discussed with any member. It is my responsibility to make sure that the information will stay with me. The name of the college and your name will remain anonymous.

**Understanding:**

You can ask questions. You can email to [netymuch@gmail.com](mailto:netymuch@gmail.com) or phone on 0718762611.

**Agreement:**

I do understand that I will be required to fill in a questionnaire and that

- I can withdrawal at anytime
- Ask for access to the research findings
- Shall stay anonymous in the study

**Student Full name** ..... **Signature** ..... **Date** .....

**Researcher signature** ..... **Date** .....

## ANNEXURE J



FACULTY OF HUMANITIES

12/30/2019

### LANGUAGE EDITING OF MS NETSAI MUCHAPONDWA'S MA DISSERTATION

I write to confirm that I have edited and proofread Ms Muchapondwa's MA dissertation entitled, *The effects of Life Orientation programme on HIV/ AIDS knowledge, attitudes and behaviours amongst college students in Randburg*.

I hold a PhD in Applied Linguistics, MA in Language for Specific Purposes, and an Honors degree in Linguistics. I have more than ten years' experience lecturing English for Academic Purposes/Academic Writing, Copy Editing and Proofreading, as well as editing and proofreading academic documents.

I hope that you will find everything in order.

Yours faithfully

A handwritten signature in black ink, appearing to read "J. Chikasha".

Dr Jubilee Chikasha  
Lecturer

Department of Languages, Cultural Studies and Applied Linguistics  
B Ring 505  
University of Johannesburg  
011 559 3637

## ANNEXURE K

Reliability					Reliability				
Cronbach's Alpha	N of Items				Cronbach's Alpha	N of Items			
0,869	15				0,816	10			
Knowledge Item-Total Statistics					Attitude Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q2.1	24,69	20,955	0,655	0,859	Q3.1	17,18	10,788	-0,082	0,841
Q2.2	24,73	20,718	0,614	0,859	Q3.2	17,08	8,714	0,665	0,784
Q2.3	25,12	19,466	0,532	0,861	Q3.3	17,13	9,193	0,568	0,796
Q2.4	24,73	20,758	0,602	0,859	Q3.4	17,12	8,926	0,662	0,787
Q2.5	24,83	20,361	0,550	0,860	Q3.5	17,33	8,662	0,443	0,808
Q2.6	24,85	20,448	0,463	0,864	Q3.6	17,17	8,721	0,655	0,785
Q2.7	24,82	20,368	0,427	0,866	Q3.7	17,54	8,150	0,536	0,797
Q2.8	25,17	19,081	0,636	0,855	Q3.8	17,26	8,393	0,611	0,786
Q2.9	24,94	20,096	0,465	0,864	Q3.9	17,15	8,368	0,626	0,785
Q2.10	25,09	19,782	0,425	0,868	Q3.10	16,85	8,708	0,386	0,817
Q2.11	24,76	20,803	0,529	0,861					
Q2.12	24,87	19,793	0,478	0,864					
Q2.13	25,31	19,495	0,580	0,858					
Q2.14	24,76	20,823	0,564	0,861					
Q2.15	25,30	19,691	0,558	0,859					

Reliability					Reliability				
Cronbach's Alpha	N of Items				Cronbach's Alpha	N of Items			
0,927	10				0,932	18			
Behaviour Item-Total Statistics					Life orientation perceptions Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q4.1	25,69	58,335	0,714	0,920	Q5.1	45,52	182,812	0,347	0,934
Q4.2	26,05	56,668	0,691	0,921	Q5.2	45,96	169,118	0,726	0,927
Q4.3	25,72	57,582	0,832	0,915	Q5.3	45,63	167,574	0,865	0,924
Q4.4	25,69	58,375	0,768	0,917	Q5.4	45,70	167,111	0,840	0,925
Q4.5	26,10	57,270	0,735	0,918	Q5.5	46,48	172,892	0,497	0,932
Q4.6	25,99	56,750	0,746	0,918	Q5.6	45,59	165,984	0,876	0,924
Q4.7	25,70	57,451	0,738	0,918	Q5.7	46,31	170,175	0,595	0,930
Q4.8	25,99	56,910	0,743	0,918	Q5.8	45,69	167,075	0,820	0,925
Q4.9	26,06	56,136	0,687	0,922	Q5.9	45,81	165,954	0,785	0,925
Q4.10	26,22	56,952	0,604	0,927	Q5.10	45,67	165,202	0,836	0,924
					Q5.11	45,71	166,427	0,813	0,925
					Q5.12	46,00	168,700	0,702	0,927
					Q5.13	45,66	168,886	0,794	0,926
					Q5.14	45,81	169,554	0,699	0,927
					Q5.15	47,75	189,728	-0,046	0,948
					Q5.16	45,76	167,383	0,774	0,926
					Q5.17	45,81	166,914	0,757	0,926
					Q5.18	46,72	172,142	0,364	0,938